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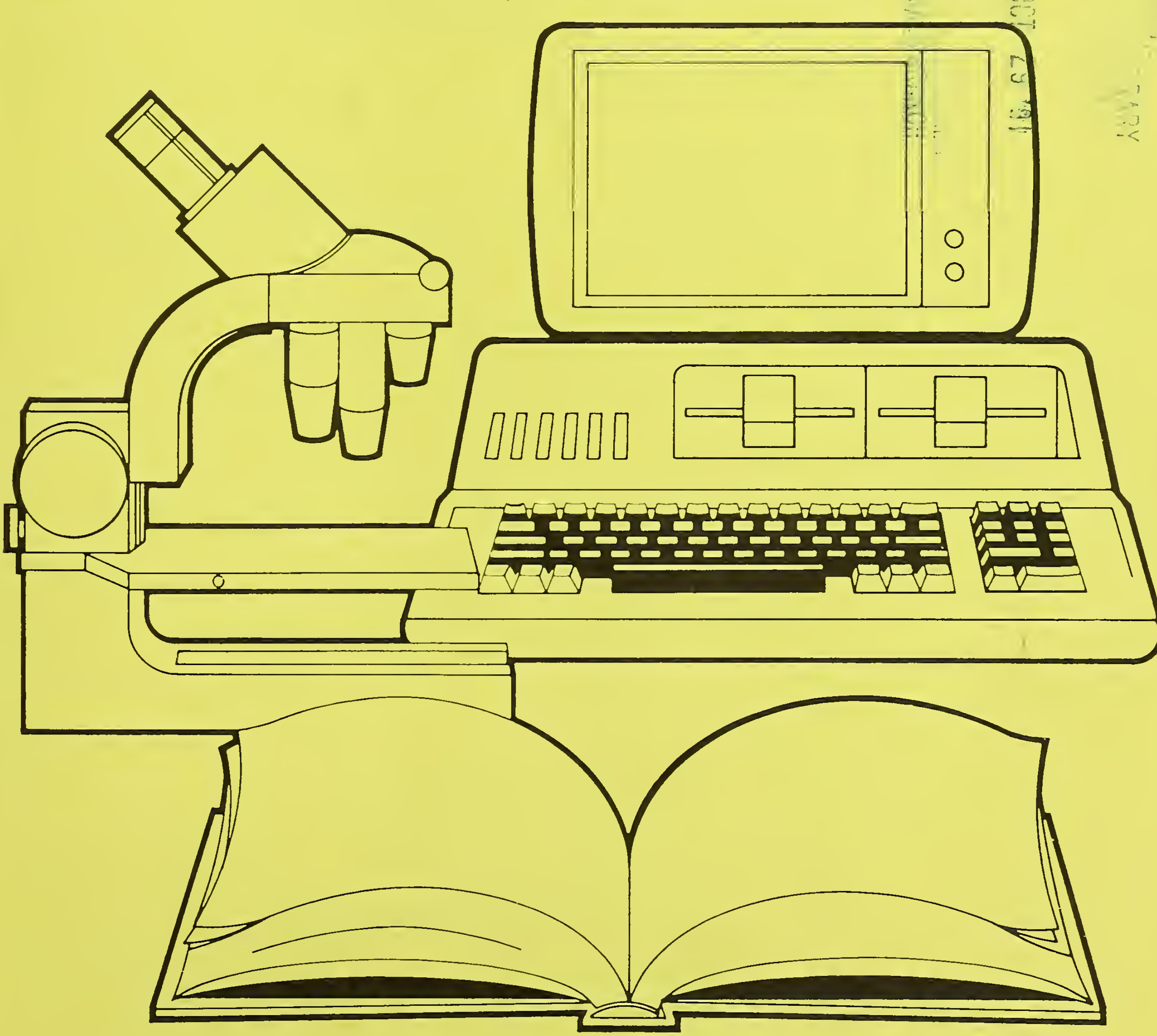

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Citations from AGRICOLA Concerning Diseases and Other Environmental Considerations

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FOREWORD

This is the 43rd volume in a series of commodity-oriented environmental bibliographies resulting from a memorandum of understanding between the U.S. Department of Agriculture, National Agricultural Library (USDA-NAL), and the U.S. Environmental Protection Agency, Office of Pesticide Programs (EPA-OPP).

This close working relationship between the two agencies will produce a series of bibliographies which will be useful to EPA in the regulation of pesticides, as well as to any researcher in the field of plant or commodity protection. The broad scope of information contained in this series will benefit USDA, EPA, and the agricultural community as a whole.

The sources referenced in these bibliographies include the majority of the latest available information from U.S. publications involving commodity protection throughout the growing and processing stages for each agricultural commodity.

We welcome the opportunity to join this cooperative effort between USDA and EPA in support of the national agricultural community.

JOSEPH H. HOWARD, Director
National Agricultural Library

DOUGLAS D. CAMPT, Director
Office of Pesticide Programs

INTRODUCTION

The citations in this bibliography, The Protection of Peanuts, are selected from the AGRICOLA database concerning diseases and other environmental considerations from January 1986 to May 1991.

This is the 43rd volume in a series of commodity-oriented listings of citations from AGRICOLA jointly sponsored by the U.S. Department of Agriculture, National Agricultural Library (USDA-NAL), and the U.S. Environmental Protection Agency, Office of Pesticide Programs (EPA-OPP). Additional volumes issued recently include The Protection of Tropical and Subtropical Fruits, The Protection of Small Grains, The Protection of Cucurbits, The Protection of Minor Vegetable Crops, The Protection of Peas, Beans, and Lentils, and The Protection of Forestry. The other 1991 volumes will cover The Protection of Lawn and Turf Grasses, The Protection of Stored Grains, The Protection of Nut Crops, and The Protection of Tomatoes, Egg Plants, and Peppers.

Entries in the bibliography are subdivided into a series of section headings used in the contents of the Bibliography of Agriculture. Each item appears under every section heading assigned to the cited document. A personal author index and a site index to plants are included with each volume.

The U.S. Environmental Protection Agency contact for this project is Richard B. Peacock, Office of Pesticides and Toxic Substances.

Any comments or questions concerning this bibliography may be addressed to the compiler and editor:

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Errata
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WEESA6. Wilcut, J.W. Swann, C.W. Champaign, Ill. : Weed Science Society of America. Common ragweed was the most difficult to control of the species present and its control appeared to have the greatest effect on peanut yield. Preplant-incorporated (PPI) treatments provided no control of common ragweed but ethalfluralin plus vernolate PPI provided better than 90% control of yellow nutsedge and nearly 50% control of morningglory species. Single applications of paraquat at 0.14 kg ai ha-1 following PPI applications of ethalfluralin or ethalfluralin plus vernolate provided less than 75% common ragweed control. Sequential applications of paraquat applied 1 and 3 weeks after peanut emergence (1 + 3 WAE) provided at least 81% common ragweed control. Peanut yield with ethalfluralin plus vernolate PPI followed by paraquat 1 WAE (4400 kg ha-1) was equivalent to the handweeded yield (4470 kg ha-1). Yields were not significantly less with the same PPI application followed by paraquat 1 + 3 WAE (3730 kg ha-1) or by acifluorfen plus bentazon 3 WAE (3730 kg ha-1), and ethalfluralin PPI followed by paraquat 1 + 3 WAE (3740 kg ha-1). Ethalfluralin plus vernolate PPI and paraquat 1 WAE provided the highest net returns of $1370 ha-1. Weed science. Nov 1990. v. 38 (6). p. 558-562. Includes references. (NAL Call No.: DNAL 79.8 W41).

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AGJOAT. Misbahulmunir, M.Y. Sammons, D.J.; Weil, R.R. Madison, Wis. : American Society of Agronomy. A two-yr (1982 and 1983) field study was conducted to determine the vegetative and reproductive effects of three intercrop treatments on corn (Zea mays L.) SS 335 A hybrid and peanut (Arachis hypogaea L.) 'Florunner'. Three planting time treatments of corn relative to peanut (2 or 3 wk before, simultaneous, and 2 or 3 wk after) were compared. Sole crops of each species were also established. Initial vegetative growth of peanut was greatest when intercropped with corn planted after peanut. Intercropped corn planted before peanut matured early but, after harvest, did not result in an environment favorable for peanut to compensate for early season growth reductions. Dry weights of intercropped peanut, regardless of relative time of corn planting, were reduced to half or less of those of sole-crop peanut. Reproductive development of both species when intercropped was generally not affected by relative planting times. Grain yields of intercropped corn were 85 to 90% and 46 to 74% of sole-crop yields in 1982 and 1983, respectively. Intercropped peanut yielded 33 to 37% and 47 to 49% of sole-crop yield in 1982 and 1983, respectively. Land equivalent ratios for intercrop combinations were not significantly affected by relative planting times; they ranged from 1.20 to 1.25 and 0.96 to 1.26 in 1982 and 1983, respectively. Corn contributed 69 to 72% and 49 to 62% of total intercrop production in 1982 and 1983, respectively. The results suggest that greatest total productivity in a corn-peanut intercrop will occur when corn is planted either simultaneously with or earlier than peanut. The highest intercrop peanut yields tended to occur when corn and peanut were planted simultaneously. Agronomy journal. Mar/Apr 1989. v. 81 (2). p. 184-189. Includes references. (NAL Call No.: DNAL 4 AM34P).

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Effects of lesser cornstalk borer (Lepidoptera: Pyralidae) feeding at selected plant growth stages on peanut growth and yield.
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Effects of two planting dates and three tillage systems on the abundance of lesser cornstalk borer (Lepidoptera: Pyralidae), other selected insects, and yield in peanut fields.
JEENAI. Mack, T.P. Backman, C.B. Lanham, Md. : Entomological Society of America. The effect of planting date and tillage system on the abundance of several insects in 'Florunner' peanuts (Arachis hypogaea L.) was examined in a 2-yr replicated field experiment. Two planting dates (late May and mid-June) and three tillage systems (conventional, reduced, and burned stubble) were evaluated. The abundance of the lesser cornstalk borer, Elasmopalpus lignosellus (Zeller), elaterids, carabids, and labidurids was monitored weekly with pitfall traps. Counts of lesser cornstalk borer, labidurid, carabid, and elaterid varied with year. Counts of lesser cornstalk borers and carabids were significantly greater in 1986 than in 1987, whereas counts of elaterids and labidurids were greater in 1987. Approximately 1.9 times more lesser cornstalk borers were captured in traps from late-planted peanuts in both years. Labidurid abundance was unaffected by planting date. Carabids were more abundant in late-planted peanuts in 1987, but planting date did not affect abundance in 1986 or when data from both years were combined. Tillage system did not affect the abundance of any of the insects monitored in either year. These experiments indicate that planting early should effectively decrease lesser cornstalk borer abundance in conventionally tilled and reduced-tillage peanuts. Journal of economic entomology. June 1990. v. 83 (3). p. 1034-1041. Includes references. (NAL Call No.: DNAL 421 J822).

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Efficacy of fumigant and nonfumigant nematicides for control of Meloidogyne arenaria on peanut.
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AGJDAT. Kvien, C.S. Schroeder, J.; Banks, P.A. Madison, Wis. : American Society of Agronomy. Agronomy journal. Sept/Oct 1988. v. 80 (5). p. 852-854. Includes references. (NAL Call No.: DNAL 4 AM34P).

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PNTSB. Kvien, C.S. Bergmark, C.L. Raleigh : American Peanut Research and Education Society. Peanut science. Jan/June 1987. v. 14 (1). p. 11-16. Includes references. (NAL Call No.: DNAL SB351.P3P39).

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Influence of the size of indigenous rhizobial populations on establishment and symbiotic performance of introduced rhizobia on field-grown legumes.
APMBA. Thies, J.E. Singleton, P.W.; Bohlool, B.B. Washington, D.C. : American Society for Microbiology. Indigenous rhizobia in soil present a competition barrier to the establishment of inoculant strains, possibly leading to inoculation failure. In this study, we used the natural diversity of rhizobial species and numbers in our fields to define, in quantitative terms, the relationship between indigenous rhizobial populations and inoculation response. Eight standardized inoculation trials were conducted at five well-characterized field sites on the island of Maui, Hawaii. Soil rhizobial populations ranged from 0 to over 3.5 X 10(4) g of soil-1 for the different legumes used. At each site, no less than four but as many as seven legume species were planted from among the following: soybean (Glycine max), lima bean (Phaseolus lunatus), cowpea (Vigna unguiculata), bush bean (Phaseolus vulgaris), peanut (Arachis hypogaea), Leucaena leucocephala, tinga pea (Lathyrus tingeatus), alfalfa (Medicago sativa), and clover (Trifolium repens). Each legume was (i) inoculated with an equal mixture of three effective strains of homologous rhizobia, (ii) fertilized at high rates with urea, or (iii) left uninoculated. For soybeans, a nonnodulating isoline was used in all trials as the rhizobia-negative control. Inoculation increased economic yield for 22 of the 29 (76%) legume species-site combinations. While the yield increase was greater than 100 kg ha-1 in all cases, in only 11 (38%) of the species-site combinations was the increase statistically significant (P less than or equal to 0.05). On average, inoculation increased yield by 62%. Soybean (G. max) responded to inoculation most frequently, while cowpea (V. unguiculata) failed to respond in all trials. Inoculation responses in the other legumes were site dependent. The response to inoculation and the competitive success of inoculant rhizobia were inversely related to numbers of indigenous rhizobia. As few as 50 rhizobia g of soil-1 eliminated inoculation response. When fewer than 10 indigenous rhizobia g of soil-1 were present,. Applied and environmental microbiology. Jan 1991. v. 57 (1). p. 19-28. Includes references. (NAL Call No.: DNAL 448.3 AP5).

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Interplanting of alfalfa and rhizoma peanut.
Valentim, J.F. Ruelke, D.C.; Prine, G.M. S.l. : The Society. Proceedings - Soil and Crop Science Society of Florida. 1987. v. 46. p. 52-55. Includes references. (NAL Call No.: DNAL 56.9 SD32).

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Intrarow seed spacing effects on morphological characteristics, yield, grade and net value of five peanut cultivars.
PNTSB. Mozingo, R.W. Steele, J.L. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1989. v. 16 (2). p. 95-99. Includes references. (NAL Call No.: DNAL SB351.P3P39).

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Introduction of 'Florigraze' perennial peanut and 'Mott' dwarf elephantgrass.
Morris, D.R. Nelson, B.D.; Friesner, D.L.; Barber, B.W. Baton Rouge? , La. : The Station. Annual progress report - Southeast Research Station, Louisiana Agricultural Experiment Station. 1988. p. 52-55. (NAL Call No.: DNAL S67.E22).

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Irrigation and tillage effects on peanut yield in Virginia.
PNTSB. Wright, F.S. Porter, D.M.; Powell, N.L.; Ross, B.B. Raleigh : American Peanut Research and Education Society. Peanut science. July/Dec 1986. v. 13 (2). p. 89-92. Includes references. (NAL Call No.: DNAL SB351.P3P39).

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Irrigation method and water quality effect on peanut yield and grade.
AGJDAT. Adamsen, F.J. Madison, Wis. : American Society of Agronomy. Peanut (Arachis hypogaea L.), irrigated only recently in the coastal plain region of Virginia and North Carolina, is produced in an area where sodic deep water sources are more readily available than high quality shallow water sources. The objective of this work was to determine the effect of irrigation water qualtiy and irrigation method on the yield and grade of peanut. Virginia-type peanuts (cv. VA 81B) were grown on a Kenansville loamy sand (loamy, siliceous, thermic Arenic Hapludult) in Suffolk, VA from 1984 to 1987. Peanuts were irrigated with either overhead sprinklers or deep buried trickle lines using deep-well (142 m) and shallow-well (10 m) water. Trickle lines were buried 350 to 410 mm below each row. Deep-well water had 220 mg Na L-1, a pH of 8.5, and a sodium adsorption ratio (SAR) of 103. Shallow-well water had 4.8 mg Na L-1, a pH of 4.8, and an SAR of 3.1. Shallow-well, trickle-irrigated peanuts yielded 5003 kg ha-1 or 14% higher than the nonirrigated treatment. Deep-well, sprinkler-irrigated peanuts averaged 4374 kg ha-1 for 4 yr, which was 21 kg ha-1 lower than the nonirrigated treatment. The price of deep-well, sprinkler-irrigated peanuts was also lower than all other treatments due to lower percentages of extra-large kernels, total sound mature kernels, and fancy pods. Deep-well water applied below 300 mm through trickle

irrigation produced peanuts of comparable quality and quantity as the shallow-well, trickle, or sprinkler-irrigation treatments. Irrigation of peanuts was beneficial in this humid region. There was no difference in peanut yield or grade when sprinkler or trickle irrigation was used with good quality irrigation water, but trickle irrigation required only 44% as much water. With a sodic water source, trickle irrigation was superior to sprinkler application. Agronomy journal. July/Aug 1989. v. 81 (4). p. 589-593. Includes references. (NAL Call No.: DNAL 4 AM34P).

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Irrigation of peanuts.
Sneed, R.E. Raleigh, N.C. : The Service. AG - North Carolina Agricultural Extension Service, North Carolina State University. In series analytic: 1990 Peanuts. Jan 1990 (331,rev.). p. 80-85. (NAL Call No.: DNAL S544.3.N6N62).

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Sneed, R.E. Raleigh, N.C. : The Service. AG - North Carolina Agricultural Extension Service, North Carolina State University. In series analytic: 1989 Peanuts / prepared by Sullivan, G.A., Linker, H.M. ... et al. . Jan 1989. (331,rev.). p. 78-83. (NAL Call No.: DNAL S544.3.N6N62).

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Lease rates and sale prices for peanut poundage quota, 1978-1987 /by Raymund Fabre and Randal R. Rucker.
Fabre, Raymund. Rucker, Randal Ray. Raleigh, N.C. : Dept. of Economics and Business, North Carolina State University at Raleigh, 1989 . "February 1989.". 43 p. ; 28 cm. Includes bibliographical references. (NAL Call No.: DNAL HD1775.N8E35 no.78).

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Metolachlor effects on peanut growth and development.
PNTSB. Cardina, J. Swann, C.W. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1988. v. 15 (2). p. 57-60. Includes references. (NAL Call No.: DNAL SB351.P3P39).

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Natural crossing of peanut in Virginia.
PNTSB. Coffelt, T.A. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. Jan/June 1989. v. 16 (1). p. 46-48. Includes references. (NAL Call No.: DNAL SB351.P3P39).

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Robinson, R.G. St. Paul, Minn. : Center for Alternative Crops and Products, University of Minnesota, 1987? . Grain legumes as alternative crops : a symposium / sponsored by the Center for Alternative Crops and Products, University of Minnesota, July 23-24, 1987. p. 77-82. (NAL Call No.: DNAL SB317.L43G73).

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Peanut and corn yield response to water table level.
Wright, F.S. Adamsen, F.J. St. Joseph, Mich. : The Society. American Society of Agricultural Engineers (Microfiche collection). Paper presented at the 1987 Winter Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1987. (fiche no. 87-2550). 19 p. ill. Includes references. (NAL Call No.: DNAL FICHE S-72).

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Peanut (Arachis hypogaea) cultivar trials at the Alcorn Branch Experiment Station.
RRMSD. Chukwuma, F.O. Igbokwe, P.E. Mississippi State, Miss. : The Station. Research report - Mississippi Agricultural and Forestry Experiment Station. Nov 1988. v. 13 (6). 6 p. Includes references. (NAL Call No.: DNAL S79.E37).

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AGJOAT. Calavan, K.M. Weil, R.R. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1988. v. 80 (4). p. 635-642. Includes references. (NAL Call No.: DNAL 4 AM34P).

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Peanut-cotton rotations for the management of Meloidogyne arenaria.
JONEB. Rodriguez-Kabana, R. Ivey, H.; Backman, P.A. Raleigh, N.C. : Society of Nematologists. Journal of nematology. Oct 1987. v. 19 (4). p. 484-486. Includes references. (NAL Call No.: DNAL QL391.N4J62).

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Peanut cultivar response to tillage systems.
PNTSB. Colvin, D.L. Brecke, B.J. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. Jan/June 1988. v. 15 (1). p. 21-24. Includes references. (NAL Call No.: DNAL SB351.P3P39).

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Sullivan, G.A. Raleigh, N.C. : The Service. AG - North Carolina Agricultural Extension Service, North Carolina State University. In series analytic: 1990 Peanuts. Jan 1990 (331,rev.). p. 14-25. (NAL Call No.: DNAL S544.3.N6N62).

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TAEBA. Harman, W.L. Regier, C.; Petr, F.; Lansford, V.D. College Station, Tex. : The Station. B - Texas Agricultural Experiment Station. Oct 1990. (1659). 13 p. Includes references. (NAL Call No.: DNAL 100 T31S (1)).

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PNTSB. Roy, R.C. Stonehouse, D.P.; Francois, B.; Brown, D.M. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1988. v. 15 (2). p. 85-89. Includes references. (NAL Call No.: DNAL SB351.P3P39).

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Peanut seed production.
JSTED. Reusche, G.A. East Lansing, Mich. : Association of Official Seed Analysts. Journal of seed technology. 1987. v. 11 (1). p. 88-96. Includes references. (NAL Call No.: DNAL SB113.2.J6).

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Ferguson, J.M. Raleigh, N.C. : The Service. AG - North Carolina Agricultural Extension Service, North Carolina State University. In series analytic: 1990 Peanuts. Jan 1990 (331,rev.). p. 8-13. (NAL Call No.: DNAL S544.3.N6N62).

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Peanut yield response to alternative timings and levels of irrigation, northern Texas Panhandle.
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Peanut yields comparable from large versus small seed.
HARAA. Wehtje, G.R. Hicks, T.V.; Bostick, J.P. Auburn University, Ala. : The Station. Highlights of agricultural research - Alabama Agricultural Experiment Station. Spring. v. 37 (1). p. 4. ill. (NAL Call No.: DNAL 100 AL1H).

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Peanuts state-level costs of production, 1986-88 /Robert Dismukes, Mir B. Ali, Robert A. Pelly.
Dismukes, Robert. Ali, Mir B.; Pelly, Robert A. Washington, DC : U.S. Dept. of Agriculture, Economic Research Service, Agriculture and Rural Economy Division, 1990 . Cover title.~ "September 1990"--P. iii. iv, 18 p. : ill., map ; 28 cm. Includes bibliographical references (p. 7). (NAL Call No.: DNAL aHD9235.P32U54).

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Perennial peanut, a summer legume for Louisiana.
LOAGA. Caldwell, A.G. Morris, D.R.; Joost, R.E.; Elkins, W.M.; Friesner, D.L. Baton Rouge, La. : The Station. Louisiana agriculture - Louisiana Agricultural Experiment Station. Winter 1990/1991. v. 34 (2). p. 14-15. Includes references. (NAL Call No.: DNAL 100 L939).

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Performance of the aged seeds under the influence of bioregulants.
PPGGD. Saxena, O.P. Arya, V.; Pandey, N.; Maheshwari, D.C. Lake Alfred, Fla. : The Society. Proceedings of the Plant Growth Regulator Society of America. 1988. (15th). p. 194-204. Includes references. (NAL Call No.: DNAL SB128.P5).

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Plant breeding for leafspot resistance in wide and narrow intrarow spacings.
PNTSB. Knauft, D.A. Gorbet, D.W. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1989. v. 16 (2). p. 119-122. Includes references. (NAL Call No.: DNAL SB351.P3P39).

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Planting date effect and double-cropping potential of rape in the southeastern United States.
AAREEZ. Thomas, D.L. Breve, M.A.; Raymer, P.L.; DaSilva, J.F.K. New York, N.Y. : Springer. Rape (Brassica napus L.) is an oilseed crop which could potentially fit into a double-cropping system in the southeastern United States. This study was conducted to evaluate the optimum planting dates and double-cropping potential of winter rape in this region. Three rape cultivars were planted in mid-October, late October, and early November in Tifton, GA, USA, during 1984 to 1986. Data collected included stand counts and seed yield. Rape planted earlier showed the best winter survival and seed yield. Westar, a Canadian spring cv., showed the highest seed yield averaging 1541 kg/ha (1375 lb/A) over two years. Cascade, an American winter cv., had an average seed yield of 938 kg/ha. Dwarf Essex, a European winter cv., had the best stands, but it did not show any yield potential due to climatic limitations on its vernalization requirements. Based on these results it appears that rape production for this region would be optimized by planting in October using cultivars with a good winterhardiness and a mild vernalization requirement. The harvest dates for Westar and Cascade, ranging from late April to early June, allowed the following crop, peanut (Arachis hypogaea L.), to produce pod yields in the range of 3000 kg/ha. Overall results reflected the feasibility of a rape-peanut double-cropping system, but the economic potential will depend on improved rape cultivars and improvements in all aspects of rape production. Applied agricultural research. Summer 1990. v. 5 (3). p. 205-211. Includes references. (NAL Call No.: DNAL S539.5.A77).

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Producing high quality seed peanuts.
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Quality evaluation of Virginia-type peanut varieties released from 1944-1985 /R.W. Mozingo, T.A. Coffelt, J.C. Wynne.
Mozingo, R. W. 1940-. Coffelt, T. A.; Wynne, J. C._1943-. Blacksburg, Va. : Virginia Agricultural Experiment Station, Virginia Tech, 1988 . "November 1988.". vii, 28 p. ; 23 cm. Bibliography: p. 27-28. (NAL Call No.: DNAL 100 G29So no.335).

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JEVQAA. Mixon, A.C. Madison, Wis. : American Society of Agronomy. Journal of environmental quality. Apr/June 1986. v. 15 (2). p. 101-103. Includes 9 references. (NAL Call No.: DNAL QH540.J6).

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CRPSAY. Wynne, J.C. Mozingo, R.W.; Emery, D.A. Madison, Wis. : Crop Science Society of America. Crop science. Jan/Feb 1986. v. 26 (1). p. 197. (NAL Call No.: DNAL 64.8 C883).

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Relationship between aflatoxin production and soil temperature for peanuts under drought stress.
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PNTSB. Wehtje, G. Wilcut, J.W.; Hicks, T.V.; McGuire, J. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1988. v. 15 (2). p. 53-56. Includes references. (NAL Call No.: DNAL SB351.P3P39).

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Rhizobium induced mineral uptake in peanut tissues.
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PNTSB. Turner, J.T. Backman, P.A. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1988. v. 15 (2). p. 73-75. Includes references. (NAL Call No.: DNAL SB351.P3P39).

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WEESA6. Wehtje, G. McGuire, J.A.; Walker, R.H.; Patterson, M.G. Champaign, Ill. : Weed Science Society of America. Weed science. Mar 1986. v. 34 (2). p. 308-311. Includes 12 references. (NAL Call No.: DNAL 79.8 W41).

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Johnson, G.L. Perry, K.B. Raleigh, N.C. : The Service. AG - North Carolina Agricultural Extension Service, North Carolina State University. In series analytic: 1990 Peanuts. Jan 1990 (331,rev.). p. 4-7. Includes references. (NAL Call No.: DNAL S544.3.N6N62).

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Establishment of florigraze rhizoma peanut (Arachis glabrata Benth.) as affected by lime, phosphorus, potassium, magnesium, and sulfur.
Niles, W.L. French, E.C.; Hildebrand, P.E.; Kidder, G.; Prine, G.M. S.l. : The Society. Proceedings - Soil and Crop Science Society of Florida. Meeting held September 26-28, 1989, St. Petersburg Beach, Florida. 1990. v. 49. p. 207-210. Includes references. (NAL Call No.: DNAL 56.9 S032).

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Additional locus with a recessive allele for red testa color in peanut.
CRPSAY. Holbrook, C.C. Branch, W.D. Madison, Wis. : Crop Science Society of America. Seed with red testa color in peanut (Arachis hypogaea L.) are sold as oil stock at reduced price when mixed with tan or pink seed. Although two loci (R1 with a dominant allele for red testa and r2 with a recessive allele for red testa) have been identified, they do not explain all observations for inheritance of red testa. This study was conducted to better define the inheritance of red testa color in peanut and present evidence for a third locus controlling red testa inheritance. Three cross combinations involving five parents having pink or tan testa color were examined. The cross combinations GA-T2465 X Tifton-8, Tifton-8 X 'Early Brunch', and 'Southern Runner' X 'Sunbelt Runner.' The F2 populations were field grown and examined for testa color. Data for each population fit a 15 tan or pink to 1 red testa segregation ratio. Examination of F3 lines also indicated that segregation for red testa color in these crosses was controlled by complementary recessive alleles at two loci. Because only one locus with a recessive red testa color allele has previously been identified, these results indicated the existence of at least one additional locus with a recessive allele for red testa color. It is proposed that the genotypes for the nonred parents GA-T2465 and Tifton-8 be designated r2r2R3R3 and R2R2r3r3, respectively. Crop science. Mar/Apr 1989. v. 29 (2). p. 312-314. Includes references. (NAL Call No.: DNAL 64.8 C883).

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'Arbrook' rhizoma peanut, a perennial forage legume.
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Bidirectional selection for nitrogenase activity and shoot dry weight among late generation progenies of a Virginia X Spanish peanut cross.
PNTSB. Arrendell, S. Wynne, J.C.; Elkan, G.H.; Schneeweis, T.J. Raleigh : American Peanut Research and Education Society. Peanut science. July/Dec 1986. v. 13 (2). p. 86-89. Includes references. (NAL Call No.: DNAL SB351.P3P39).

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Characteristics of a rare, monosomic peanut (Arachis hypogaea L.--Leguminosae), with implications for haploidy discovery.
AJBOAA. Banks, D.J. Columbus, Ohio : Botanical Society of America. American journal of botany. Includes abstract. 1988. p. 97-98. (NAL Call No.: DNAL 450 AM36).

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Combining ability of Ontario-grown peanuts (Arachis hypogaea L.) for oil, fatty acids, and taxonomic characters.
PNTSB. Sykes, E.E. Michaels, T.E. Raleigh : American Peanut Research and Education Society. Peanut science. July/Dec 1986. v. 13 (2). p. 93-97. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0180

Components of partial resistance in peanut genotypes to isolates of Cercosporidium personatum from the United States and Thailand.
PHYTAJ. Shew, B.B. Sommartya, T.; Beute, M.K. St. Paul, Minn. : American Phytopathological Society. Leaves were detached from 14 peanut (Arachis hypogaea) genotypes that previously were characterized as having low, moderate, or high partial resistance to Cerosporidium personatum. Detached leaf cultures were inoculated with isolates of C. personatum from diverse locations within Thailand and the United States. Lesion numbers, the percentages of lesions that sporulated 20 (%LS20) and 30 (%LS30) days after inoculation, lesion diameters, and conidial production per sporulating lesion were determined. Thai isolates of C. personatum generally caused more lesions than U.S. isolates on all genotypes. Differences among isolates for other disease components were small and varied between two trials. Stability of resistance to several disease components was evaluated with regression analysis, in which low mean disease ratings, nonsignificant deviations, and slopes near zero in the regression indicated stable resistance. Significant slopes, which indicate increasing disease with increasing isolate virulence, occurred in lesion numbers, %LS20, %LS30, and conidial production for some genotypes. Few significant deviations, which indicate significantly higher disease in specific isolate X genotype combinations, were found among moderately and highly resistant

genotypes. The three most resistant genotypes varied little in overall resistance but differed in stability of resistance. KUP24D-248W, a genotype selected in Thailand, had the most stable resistance to the isolates tested. Differences within isolates and between trials were nearly as great as differences among isolates from the diverse locations. Phytopathology. Feb 1989. v. 79 (2). p. 136-142. Includes references. (NAL Call No.: DNAL 464.8 P56).

0181

Cultivating an indifference to drought.
AGREA. Cooke, L. Kaplan, K. Washington, D.C. : The Administration. Agricultural research - U.S. Department of Agriculture, Agricultural Research Service. Aug 1988. v. 36 (7). p. 8-9. ill. (NAL Call No.: DNAL 1.98 AG84).

0182

Culture and genetics of grain legumes.
Hartwig, E.E. New York : M. Dekker, c1989. Legumes : chemistry, technology, and human nutrition / edited by Ruth H. Matthews. p. 1-10. Includes references. (NAL Call No.: DNAL TP443.L4).

0183

Detection and partial characterization of new polypeptides in peanut cotyledons associated with early stages of infection by Aspergillus spp.
PHYTA. Szerszen, J.B. Pettit, R.E. St. Paul, Minn. : American Phytopathological Society. Polypeptide profiles of peanut cotyledonary tissue from viable kernels of 14 cultivars grown under normal irrigation and five genotypes grown under drought stress were determined before and after invasion by Aspergillus flavus and A. parasiticus. inoculated kernels and isolated cotyledons were removed from moist chambers every 6 hr within 48 hr after inoculation. Polypeptide patterns were determined by microprocessor-controlled sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE) and two-dimensional electrophoresis and visualized after staining with silver. Uninoculated cotyledonary tissue contained 35 comigrating groups of SDS-dissociated proteins (13.5-218.7 kDa), and mapping showed the presence of 257 components within pI range 3.00- 8.70. Four new polypeptides (16.4, 18.1, 23.0, and 30.6 kDa; pI 7.95, 8.00, 7.90, and 7.55, respectively) were present in viable intact kernels and live, isolated cotyledons 18-24 hr following inoculation. Two additional polypeptides (19.9 and 22.0 kDa; pI 8.15 and 8.00, respectively) were detected after 24-30 hr of incubation in cotyledons from plants grown under normal irrigation. Drought stress inhibited the synthesis of these polypeptides except in kernels of cultivar TX 798736, which contained five of them, including one specific for this cultivar (37.2 kDa; pI 6.50). Mapping of polypeptides showed their enhanced synthesis with time and variations in amounts among cultivars tested. Phytopathology. Dec 1990. v. 80 (12). p. 1432-1438. ill. Includes references. (NAL Call No.: DNAL 464.8 P56).

0184

Disease progression and leaf area dynamics of four peanut genotypes differing in resistance to late leafspot.
CRPSAY. Pixley, K.V. Boote, K.J.; Shokes, F.M.; Gorbet, D.W. Madison, Wis. : Crop Science Society of America. Leafspot epidemics caused by Cercospora arachidicola Hori (CA) and Cercosporidium personatum (Berk. & Curt.) Deighton (CP) occur every year on peanut (Arachis hypogaea L.) in the southeastern USA and can reduce yields even in fungicide-treated fields. In this study, leafspot epidemic rates and leaf area dynamics were compared for the widely grown but susceptible cultivar Florunner and three genotypes (Southern Runner, F81206, and MA72x94-12) having partial resistance to CP. Field studies were conducted at Marianna, FL in 1983 and at Gainesville, FL in 1985. Percent necrotic area in three leaf canopy layers (estimated using modified Horsfall-Barratt diagrams), defoliation of the main stem (determined by counting missing leaflets), and leaf area index (LAI) were recorded at 7 to 10-d intervals. In plots receiving no fungicide, rates of disease progress were one-half to two-thirds as great and areas under disease progress curves were 10 to 30% as large for the resistant genotypes as for Florunner. All genotypes lost similar amounts of LAI in response to disease, but defoliation was more complete for Florunner than for the other genotypes. Maintenance of higher LAI by these resistant genotypes was associated with sustained leaf production until maturity. The combination of lower epidemic rates with continued leaf growth (compensating for diseased leaves) appears to reduce the adverse effects of leafspot on assimilation and yield capabilityof these resistant lines. Nevertheless, leaf replacement is probably not the optimum mechanism for minimizing effects of leafspot diseases because leaf growth requires energy that could otherwise be available for pod growth. Crop science. July/Aug 1990. v. 30 (4). p. 789-796. Includes references. (NAL Call No.: DNAL 64.8 C883).

0185

Early stages of infection of peanut by Sclerotinia minor.
PHYTA. Melouk, H.A. Aboshosha, S.S.; Akem, C.N. St. Paul, Minn. : American Phytopathological Society. Phytopathology. Includes abstract. May 1988. v. 78 (5). p. 629. (NAL Call No.: DNAL 464.8 P56).

0186

Effect of host genotype on incubation period, receptivity, lesion diameter, and leaf area damage of didymella arachidicola on peanut.
PNTSB. Subrahmanyam, P. Smith, D.H. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1987. v. 14 (2). p. 90-94. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0187

Effect of metalaxyl plus PCNB or metalaxyl plus tolclofos-methyl on peanut pod rot and soil populations of Pythium spp. and Rhizoctonia solani.
PNTSB. Filonow, A.B. Jackson, K.E. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. Jan/June 1989. v. 16 (1). p. 25-32. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0188

Effect of selection for emergence and maturity on yield of Ontario peanuts.
PNTSB. Michaels, T.E. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1988. v. 15 (2). p. 69-72. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0189

Effects of genotype and date of harvest on infection of peanut seed by Aspergillus flavus and subsequent contamination with aflatoxin.
PNTSB. Mehan, V.K. McDonald, D.; Ramakrishna, N.; Williams, J.H. Raleigh : American Peanut Research and Education Society. Peanut science. July/Dec 1986. v. 13 (2). p. 46-50. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0190

End-of-row effects on peanut yield tests.
PNTSB. Smith, O.D. Simpson, C.E.; Howard, E.R. Raleigh : American Peanut Research and Education Society. Peanut science. Jan/June 1986. v. 13 (1). p. 1-4. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0191

Evaluation of three cycles of recurrent selection for fruit yield within a population of Virginia-type peanut.
CRPSAY. Monteverde-Penso, E.J. Wynne, J.C. Madison, Wis. : Crop Science Society of America. Crop science. Jan/Feb 1988. v. 28 (1). p. 75-78. Includes references. (NAL Call No.: DNAL 64.8 C883).

0192

Field evaluation of fungicides for management of peanut foliar diseases.
Shokes, F.M. Smith, D.H.; Littrell, R.H. St. Paul, Minn. : APS Press, c1986. Methods for evaluating pesticides for control of plant pathogens / edited by Kenneth D. Hickey ; prepared jointly by the American Phytopathological Society and the Society of Nematologists. p. 212-216. Includes references. (NAL Call No.: DNAL SB960.M47 1986).

0193

Field evaluations of peanut cultivar-Bradyrhizobium specificities.
PNTSB. Phillips, T.D. Wynne, J.C.; Elkan, G.H.; Schneeweis, T.J. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. Jan/June 1989. v. 16 (1). p. 54-57. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0194

Floral visits by honey bees to three caged peanut genotypes and the resulting increase in hybrid seed.
ABJOA. Moffett, J.O. Banks, D.J.; Pittman, R.M. Hamilton, Ill. : Dadant & Sons. American bee journal. Includes abstract. Dec 1986. v. 126 (12). p. 833. (NAL Call No.: DNAL 424.8 AM3).

0195

GA/BCP/CAR--breeding and cultural practices for the Caribbean.
Kvien, C. Holbrook, C.; Csinos, A.; Branch, B.; Cooper, B.; Rai, B.K.; Suah, J.; Haque, S. Griffin, Ga. : University of Georgia, Georgia Experiment Station. Annual report of the Peanut Collaborative Research Support Program (CRSP). 1986? . p. 18-22. (NAL Call No.: DNAL SB351.P3P432).

0196

Genetic improvement in large-seeded Virginia-type peanut cultivars since 1944.
CRPSAY. Mozingo, R.W. Coffelt, T.A.; Wynne, J.C. Madison, Wis. : Crop Science Society of America. Peanut (Arachis hypogaea L.) yields have increased from an average of 1120 kg ha-1 in the 1940s to over 3360 kg ha-1 in the 1980s in the Virginia-North Carolina Production Area. This yield increase may be attributed to the development of new cultivars as well as changes in production practices during this period. In order to measure increases attributed to genetic improvement, a 3-yr field study (1982-1984) was conducted at the Tidewater Research Center in Suffolk, VA on an Eunola loamy find sand soil (Aquic Hapludults) and the Peanut Belt Research Station in Lewiston, NC on a Norfolk sandy loam soil (Typic Paleudults)

using current production practices. The highest yielding cultivar developed during the 1950s, 1960s, and 1970s had an average yield increase of 3.4, 10.2, and 18.5%, respectively, over the standard 'NC 4'. During the 1970s, breeding emphasis was placed on pest resistance and quality acceptance. Consequently, yields of cultivars released to date during the 1980s have not surpassed the cultivar with the highest yield developed during the 1970s. Results from this study show genetic improvement has been made in large-seeded Virginia-type peanut with an 18.5% yield increase attributed to improved cultivars. This genetic improvement has accounted for yearly yield increases of 14.7 kg ha-1. Crop science. Mar/Apr 1987. v. 27 (2). p. 228-231. Includes references. (NAL Call No.: DNAL 64.8 C883).

0197

Genetic variability and selection for acetylene reduction in peanut.
CRPSAY. Arrendell, S. Wynne, J.C.; Rawlings, J.O. Madison, Wis. : Crop Science Society of America. Effective manipulation of the symbiotic relationship between peanut (Arachis hypogaea L.) and Bradyrhizobium is aided by an understanding of the genetic mechanisms governing the host contribution. This study was conducted to obtain genetic variance estimates and evaluate the effectiveness of selection for acetylene reduction. The population under study consisted of 80 F5 lines derived from the single cross of the Virginia-type 'Florigiant' and the Spanish-type 'CES 101'. Estimates of genetic variance components for acetylene reduction were obtained at three sampling dates at each of two locations. Standard errors of the estimates were generally large; however, the tendency was for additive genetic variance to be important at Dates 1 and 3 and for the additive X additive genetic variance to be important at Date 2. The five lines with the highest mean acetylene reduction and the five with the lowest mean acetylene reduction were selected and evaluated in the F6 generation. The mean acetylene reduction of the high selection group, 79.1 micromoles C2H4 plant-1 h-1, was significantly greater than the mean of the low selection group, 52.2 micromoles C2H4 plant-1 h-1, but not different from the mean of the better parent, 89.9 micromoles C2H4 plant-1 h-1. Twenty-eight vegetative, fruit, and seed characters were used to assign the selected lines and original parents to morphological groups. Variability for these traits existed within each of the selection groups. Selected lines, regardless of selection group, did not group with either parent. Adequate genetic variability existed in this late generation population and host genotypes with differing abilities to fix N2 were identified by selection. When the breeding objective is improvement of the N2-fixing ability of Spanish-type peanuts, direct selection for morphological characters may be required if the base population has been derived from a Virginia X Spanish cross. Crop science. Nov/Dec 1989. v. 29 (6). p. 1387-1392. Includes references. (NAL Call No.: DNAL 64.8 C883).

0198

Gentoype X environment interactions in peanut multiline populations.
CRPSAY. Norden, A.J. Gorbet, D.W.; Kanuft, D.A.; Martin, F.G. Madison, Wis. : Crop Science Society of America. Crop science. Jan/Feb 1986. v. 26 (1). p. 46-48. Includes 8 references. (NAL Call No.: DNAL 64.8 C883).

0199

Growth and partitioning characteristics of four peanut genotypes differing in resistance to late leafspot.
CRPSAY. Pixley, K.V. Boote, K.J.; Shokes, F.M.; Gorbet, D.W. Madison, Wis. : Crop Science Society of America. Genetic resistance in peanut (Arachis hypogaea L.) to foliar disease caused by Cercospora arachidicola Hori (CA) and Cercosporidium personatum (Berk. & Curt.) Deighton (CP) has usually been associated with low yields and late maturity. Some recently developed genotypes have partial resistance to CP and good yield potential. This study was conducted to understand growth and partitioning characteristics that contribute to yield potential of three leafspot-resistant genotypes relative to the widely grown but susceptible cultivar Florunner. Crop growth, vegetative growth, reproductive growth, partitioning intensity of Florunner, 'Southern Runner', F81206, and MA72x94-12 were measured in field studies during two seasons in the presence or absence of fungicidal control of leafspots. In fungicide treated plots, the genotypes had similar crop growth rates, but differed in assimilate partitioning to pod growth (92, 80, 77, and 53% for Florunner, Southern Runner, F81206, and MA72x94-12, respectively). In treated plots, high partitioning of assimilate to pods and early onset of pod fill enabled Florunner to achieve high yield in 127 d. In untreated plots, this high intensity of partitioning to pods limited Florunner's leaf production during pod fill and precluded replacement of diseased leaves. By contrast, Southern Runner, F81206, and MA72x94-12 compensated partially for leafspot-induced defoliation; later onset of pod fill (6 to 16 d) and lower partitioning to pods allowed greater leaf area growth during pod fill. A combination of leafspot resistance, lower partitioning to pods (allowing leaf growth), and slightly longer pod fill resulted in satisfactory yields from Southern Runner and F81206 without fungicidal control of leafspot. Crop science. July/Aug 1990. v. 30 (4). p. 796-804. Includes references. (NAL Call No.: DNAL 64.8 C883).

0200

Growth regulator effects on the composition of seed of five peanut cultivars.
AGJOAT. Mozingo, R.W. Steele, J.L.; Young, C.T. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1986. v. 78 (4). p. 645-648. Includes 14 references. (NAL Call No.: DNAL 4 AM34P).

0201

Guymon bermudagrass.
Stillwater : The Station. Agriculture at OSU - Aklahoma State University, Agricultural Experiment Station. Summer 1986. v. 16 (3). p. 4. ill. (NAL Call No.: DNAL S103.E2A37).

0202

The incidence and survival of Sclerotinia minor in peanut seed.
PNTSB. Porter, D.M. Taber, R.A.; Smith, D.H. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1989. v. 16 (2). p. 113-115. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0203

The influence of seed size on the agronomic performance of a small-seeded Spanish peanut line.
Knauft, D.A. Gorbet, D.W.; Wood, H.C. S.l. : The Society. Proceedings - Soil and Crop Science Society of Florida. Meeting held September 26-28, 1989, St. Petersburg Beach, Florida. 1990. v. 49. p. 135-138. Includes references. (NAL Call No.: DNAL 56.9 SO32).

0204

Inheritance of resistance to peanut mottle virus in Phaseolus vulgaris.
JDHEA. Provvidentl, R. Chirco, E.M. Washington, D.C. : American Genetic Association. The Journal of heredity. Nov/Dec 1987. v. 78 (6). p. 402-403. Includes references. (NAL Call No.: DNAL 442.8 AM3).

0205

Intrarow seed spacing effects on morphological characteristics, yield, grade and net value of five peanut cultivars.
PNTSB. Mozingo, R.W. Steele, J.L. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1989. v. 16 (2). p. 95-99. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0206

Introduction of 'Florigraze' perennial peanut and 'Mott' dwarf elephantgrass.
Morris, D.R. Nelson, B.D.; Friesner, D.L.; Barber, B.W. Baton Rouge? , La. : The Station. Annual progress report - Southeast Research Station, Louisiana Agricultural Experiment Station. 1988. p. 52-55. (NAL Call No.: DNAL S67.E22).

0207

Management of arthropods on peanuts in Southeast Asia.
Campbell, W.V. Experiment, Ga. : University of Georgia, Georgia Experiment Station. Annual report of the Peanut Collaborative Research Support Program (CRSP). 1986. p. 235-258. (NAL Call No.: DNAL SB351.P3P432).

0208

Natural crossing of peanut in Virginia.
PNTSB. Coffelt, T.A. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. Jan/June 1989. v. 16 (1). p. 46-48. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0209

Peanut.
Coffelt, T.A. New York : McGraw-Hill, c1989. Oil crops of the world : their breeding and utilization / editors Gerhard Robbelen, R. Keith Downey, Amram Ashri. p. 319-338. ill., maps. Includes references. (NAL Call No.: DNAL SB298.O32).

0210

Peanut (Arachis hypogaea) cultivar trials at the Alcorn Branch Experiment Station.
RRMSD. Chukwuma, F.O. Igbokwe, P.E. Mississippi State, Miss. : The Station. Research report - Mississippi Agricultural and Forestry Experiment Station. Nov 1988. v. 13 (6). 6 p. Includes references. (NAL Call No.: DNAL S79.E37).

0211

Peanut cultivar response to tillage systems.
PNTSB. Colvin, D.L. Brecke, B.J. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. Jan/June 1988. v. 15 (1). p. 21-24. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0212

Performance of peanut varieties, Oklahoma, 1988.
Sholar, R. Kirby, J. Stillwater, Okla. : The Service. OSU current report - Oklahoma State University, Cooperative Extension Service. Includes statistical data. Feb 1989. (2054). 4 p. (NAL Call No.: DNAL S451.O5O8).

0213

Performance of soybean and peanut varieties in South Carolina, 1987.
Shipe, E.R. Gooden, D.T.; Barefield, D.K. Clemson, S.C. : The Station. Circular - South Carolina Agricultural Experiment Station. Includes statistical data. Jan 1988. (194,rev.). 88 p. maps. (NAL Call No.: DNAL 100 S08 (2)).

0214

Plant breeding for leafspot resistance in wide and narrow intrarow spacings.
PNTSB. Knauft, D.A. Gorbet, D.W. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1989. v. 16 (2). p. 119-122. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0215

Planting date effect and double-cropping potential of rape in the southeastern United States.
AAREEZ. Thomas, D.L. Breve, M.A.; Raymer, P.L.; DaSilva, J.F.K. New York, N.Y. : Springer. Rape (Brassica napus L.) is an oilseed crop which could potentially fit into a double-cropping system in the southeastern United States. This study was conducted to evaluate the optimum planting dates and double-cropping potential of winter rape in this region. Three rape cultivars were planted in mid-October, late October, and early November in Tifton, GA, USA, during 1984 to 1986. Data collected included stand counts and seed yield. Rape planted earlier showed the best winter survival and seed yield. Westar, a Canadian spring cv., showed the highest seed yield averaging 1541 kg/ha (1375 lb/A) over two years. Cascade, an American winter cv., had an average seed yield of 938 kg/ha. Dwarf Essex, a European winter cv., had the best stands, but it did not show any yield potential due to climatic limitations on its vernalization requirements. Based on these results it appears that rape production for this region would be optimized by planting in October using cultivars with a good winterhardiness and a mild vernalization requirement. The harvest dates for Westar and Cascade, ranging from late April to early June, allowed the following crop, peanut (Arachis hypogaea L.), to produce pod yields in the range of 3000 kg/ha. Overall results reflected the feasibility of a rape-peanut double-cropping system, but the economic potential will depend on improved rape cultivars and improvements in all aspects of rape production. Applied agricultural research. Summer 1990. v. 5 (3). p. 205-211. Includes references. (NAL Call No.: DNAL S539.5.A77).

0216

Pod characteristics influencing calcium concentrations in the seed and hull of peanut.
CRPSAY. Kvien, C.S. Branch, W.D.; Sumner, M.E.; Csinos, A.S. Madison, Wis. : Crop Science Society of America. Calcium is often a limiting factor in peanut (Arachis hypogaea L.) production. Since the peanut fruit develops underground, it will not transpire root absorbed water. Therefore, the developing fruit must absorb phloem--immobile ions such as Ca directly from the soil solution. This experiment's objective was to determine the influence of several pod characteristics on Ca accumulation and Ca concentration in peanut fruit. Eight genotypes with diverse fruit characteristics were grown for two seasons under five water stress treatments drought 20 to 50 d after planting (DAP), 50 to 80 DAP, 80 to 110 DAP, 110 to 140 DAP, and a well-watered control . The 80-to 110-DAP drought period had the greatest negative impact on seed Ca concentrations. Total Ca accumulation in the pod (hull + seed) was positively correlated (0.97) to pod surface area. However, five pod characteristics (days required to mature a pod, specific hull weight, pod surface area, hull thickness, and pod volume) significantly influenced seed and hull Ca concentrations. These characteristics were under genetic control, but their absolute value was modified by water stress. Supply of Ca to the seed may be analogous to a filter system. Thin, light hulls and long pod maturity periods promote high Ca concentrations in the seed. Thick, dense hulls, short maturity periods, and small pod volumes promote high Ca concentrations in the hull. Crop science. July/Aug 1988. v. 28 (4). p. 666-671. Includes references. (NAL Call No.: DNAL 64.8 C883).

0217

A rapid method fo~ evaluating genotype resistance, fungicide activity, and isolate pathogenicity of Sclerotinia minor in peanut.
PNTSB. Brenneman, T.B. Phipps, P.M.; Stipes, R.J. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1988. v. 15 (2). p. 104-107. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0218

Reaction of peanut genotypes under drought stress to Aspergillus flavus and A. parasiticus.
PNTSB. Azaizeh, H.A. Pettit, R.E.; Smith, O.D.; Taber, R.A. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1989. v. 16 (2). p. 109-113. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0219

Reducing Aspergillus species infection of peanut seed using resistant genotypes.
JEVQAA. Mixon, A.C. Madison, Wis. : American Society of Agronomy. Journal of environmental quality. Apr/June 1986. v. 15 (2). p. 101-103. Includes 9 references. (NAL Call No.: DNAL QH540.J6).

0220

Registration of 'NC 9' peanut.
CRPSAY. Wynne, J.C. Mozingo, R.W.; Emery, D.A. Madison, Wis. : Crop Science Society of America. Crop science. Jan/Feb 1986. v. 26 (1). p. 197. (NAL Call No.: DNAL 64.8 C883).

0221

Reproductive efficiency of 14 Virginia-type peanut cultivars.
CRPSAY. Coffelt, T.A. Seaton, M.L.; VanScoyoc, S.W. Madison, Wis. : Crop Science Society of America. The reproductive efficiency (RE) of most peanut (Arachis hypogaea L.) cultivars has not been studied and methods for estimating RE have not been consistent. The objective of this study was to determine the changes in RE of 14 Virginia-type peanut cultivars due to breeding efforts since 1944. The cultivars varied in release date, maturity, growth habit, and developmental breeding method. Field experiments were conducted at the Tidewater Agricultural Experiment station, Suffolk, VA on two-row plots 0.9 m wide by 6.1 m long. Plantings were made on 16 May 1983 on an Eunola loamy fine sand (fine-loamy, siliceous, thermic Aquic Hapludult) and on 10 May 1984 on a Nanseumond fine sandy loam (coarse-loamy, siliceous, thermic Aquic Hapludult). Two randomly chosen plants were selected from each cultivar from each of four replicates for evaluation. Five methods of estimating reproductive efficiency (REM) were used: REM 1 = harvest index or (mature pod dry weight) (plant dry weight)-1; REM 2 = (mature pod total) (flower total)-1; REM 3 = (pod total) flower total)-1; REM 4 = (peg total + pod total) (flower total)-1; and REM 5 = (mature seed total) (flower total X 2)-1. Results indicated that earlier maturing cultivars had a greater RE than later maturing cultivars, erect cultivars had a greater RE than spreading cultivars, and RE was not affected by breeding method. Newer cultivars had a higher RE as estimated by REM 1 than older cultivars, but not as estimated by REM 2, 3, 4, and 5. The higher yield of most newer cultivars apppeared to be related more to total flower production than to RE. Future increases for yield might best be accomplished by developing cultivars with combinations of high RE, harvest index, and total flower count. Crop science. Sept/Oct 1989. v. 29 (5). p. 1217-1220. Includes references. (NAL Call No.: DNAL 64.8 C883).

0222

Response of peanut genotypes with differential levels of leafspot resistance to fungicide treatments.
CRPSAY. Gorbet, D.W. Knauft, D.A.; Shokes, F.M. Madison, Wis. : Crop Science Society of America. Leafspot diseases, caused by Cercospora arachidicola S. Hori (early leafspot) and Cercosporidium personatum (Berk. and Curt.) Deighton (late leafspot), are worldwide production problems on peanut (Arachis hypogaea L.). The extensive use of fungicides to control these diseases on susceptible cultivars is costly to growers. Developing leafspot resistant cultivars is a primary objective in many breeding programs. 'Southern Runner', which was released in 1986, is the only commercially available peanut cultivar in the USA with significant leafspot resistance. Field studies were conducted in 1981 to 1983 and 1985 to 1987 on peanut breeding lines with varying levels of leafspot resistance to evaluate their disease reaction and agronomic response to three leafspot fungicide programs and to assess their potential as cultivars for use with fewer fungicide sprays. The cultivars Florunner (susceptible) and Southern Runner (moderately resistant) and three breeding lines were used in all 6 yr, with five additional lines unique to the 1981 to 1983 experiments and four additional lines unique to the 1985 to 1987 tests. All experiments were randomized-complete block, split-plot designs with genotypes as subplots and three fungicide spray programs as main Plot treatments: (i) unsprayed, (ii) chlorothatonil (tetrachloroisophthalonitrile), 500 g L-1 on 20-d, and (iii) 14-d spray schedules. Leafspot disease ratings were on a 1 to 10 scale, with 1 = no disease and 10 = dead plants, assessed prior to digging. Significant (P less than or equal to 0.01) genotypic differences for pod yield, percent total sound mature kernels, seed weights, and disease ratings were noted. Significant (P less than or equal to 0.01) differences were obtained for years, fungicide treatments, and most two- and three-way interactions. Negative correlations were obtained between pod yields and disease ratings for unsprayed (r = -0.64) and 20-d schedules (r = -0.46), but not for the 14-d treatment. No differences. Crop science. May/June 1990. v. 30 (3). p. 529-533. Includes references. (NAL Call No.: DNAL 64.8 C883).

0223

Southern Runner, a new leafspot-resistant peanut variety.
Gorbert, D.W. Norden, A.J.; Shokes, F.M.; Knauft, D.A. Gainesville : The Institute. Circular S - Florida Agricultural Experiment Stations, Institute of Food and Agricultural Sciences, University of Florida. Sept 1986. (324). 13 p. ill. Includes references. (NAL Call No.: DNAL 100 F66CI).

0224

Symbiotic relationship between Bradyrhizobium strains and peanut.
CRPSAY. Alwi, N. Wynne, J.C.; Rawlings, J.O.; Schneeweis, T.J.; Elkan, G.H. Madison, Wis. : Crop Science Society of America. Significant host X strain interactions for the amount of N fixed were found in previous factorial experiments of peanut (Arachis hypogaea L.) and Bradyrhizobium strains. The results suggested that specific host-strain combinations should be identified to maximize N fixation. The objectives of this study were to determine if methodology could be developed to reduce the testing required to identify specific host-strain combinations that maximize N fixation. Sixteen peanut cultivars representing four morphological groups inoculated with 29 Bradyrhizobium strains known to be effective on peanut were used to determine if grouping of host genotypes or strain genotypes could be used to limit testing to groups of genotypes instead of individual genotypes. The peanut cultivars grouped using numerical taxonomy of morphological characters reflected the differences in response to rhizobial strains; however, cultivars were not homogeneous within groups for symbiotic traits. Strain variability was the largest component of the phenotypic variability for all traits, and the host plant had larger variability than the cultivar X strain interaction for nodule number, nodule weight, and nodule size. The biplot of shoot weight ratio classified the strains and peanut cultivars into five and four groups, respectively. All cultivars received enough N to appear normal when they were inoculated with effective strains but were quite different in response to symbiotic N. These results suggest that the amount of plant testing required to identify specific strains for a host genotype can be reduced considerably by first classifying the symbionts into groups and eliminating some groups from further testing. Crop science. Jan/Feb 1989. v. 29 (1). p. 50-54. Includes references. (NAL Call No.: DNAL 64.8 C883).

0225

Thermal time requirements for Phenological development of peanut.
AGJOAT. Ketring, D.L. Wheless, T.G. Madison, Wis. : American Society of Agronomy. Temperature is a major environmental factor that determines the rate of plant development. Relation of thermal time to phenological development of peanut would provide a better understanding of this crop's response to temperature. Thermal time measured in day-degrees (degrees Cd) was used to determine peanut (Arachis hypogaea L.) phenological development of a spanish botanical-type cultivar, Pronto, and a virginia botanical-type breeding line, OK-FH15. Peanuts were grown under field conditions, on a Teller sandy loam (fine-loamy, mixed, thermic, Udic Argiustoll) in 1985, 1986, and 1987. Irrigation plus rainfall ranged from 840 mm in 1985 to 400 mm in 1987. At 12 d after planting (DAP) when greater than 80% emergence had occurred, 136 +/- 18 degrees Cd had accumulated. Pronto produced more mainstem nodes (vegetative stage) than did OK-FH15. Regression analyses indicated that both vegetative and reproductive development were highly correlated with degrees Cd for both genotypes. Incipient flowering (R1) began at 313 and 360 degrees Cd in 1985 and 1986, respectively. At 50% R1 in 1987, 410 and 498 degrees Cd had accumulated for Pronto and OK-FH15, respectively. Both vegetative and reproductive stage development were slower with less water. Although attainment of a high reproductive stage value (7 to 9) does not indicate a high yield per se, it does indicate the degree of crop maturity. Seasonal accumulation of degrees Cd in 1985, 1986, and 1987 was 1456, 1672, and 1473, respectively. Crop yields (pods) for the full-irrigation treatment were 312, 325, and 288 g m-2 for Pronto and 358, 405, and 308 g m-2 for OK-FH15 in 1985, 1986, and 1987, respectively. Knowledge of degrees Cd accumulated can provide an estimate of harvest date as well as crop development stage. Agronomy journal. Nov/Dec 1989. v. 81 (6). p. 910-917. Includes references. (NAL Call No.: DNAL 4 AM34P).

0226

Use of spatial patterns and density of inoculum of Cylindrocladium crotalariae during field evaluation of partially resistant peanut genotypes.
PHYTA. Culbreath, A.K. Beute, M.K.; Wynne, J.C. St. Paul, Minn. : American Phytopathological Society. Three new peanut genotypes NC Ac 18414, NC Ac 18416, and NC Ac 18417; susceptible cultivar, NC 8C; Florigiant; moderately resistant cultivar, NC 8C; and highly resistant genotypes, NC Ac 18016 and NC 3033, were evaluated in 1986 and 1987 for incidence of Cylindrocladium black rot in field experiments designed to take into account inoculum density and spatial patterns of propagules of Cylindrocladium crotalariae as well as genotype effects on disease incidence. Crop rotation and observation of previous black rot incidence were used to divide fields into quadrants with different average inoculum levels of C. crotalariae. Soil samples from each plot were assayed before planting each year to estimate inoculum density and to determine spatial patterns of inoculum. Estimates of inoculum density were used as an experimental design factor such that genotypes were assigned to replicated plots representing similar ranges of inoculum density. Final disease incidence, area under disease progress curve, and indices relating performance of each genotype to that of Florigiant were used for comparison of the genotypes. Incidence of black rot in NC Ac 18417 was not significantly higher than that of NC 8C in 1986, but was in 1987. NC Ac 18414 performed only slightly better than Florigiant. NC Ac 18417 was chosen for release as moderately resistant cultivar NC 10C. Significant correlations between initial inoculum level and final disease incidence were detected in 1986 for all genotypes except the highly resistant line NC 3033. In 1986, NC Ac 18414 and NC Ac 18417 appeared to be more sensitive to increases in inoculum density than

the other resistant genotypes, although performances of NC 8C and NC Ac 18417 were comparable at low levels of inoculum. Correlation of disease incidence with initial inoculum was not detected in 1987. Phytopathology. Dec 1990. v. 80 (12). p. 1395-1400. Includes references. (NAL Call No.: DNAL 464.8 P56).

0227

Variability in growth characteristics and leafspot resistance parameters of peanut lines.
CRPSAY. Knauft, D.A. Gorbet, D.W. Madison, Wis. : Crop Science Society of America. Peanut (Arachis hypogaea L.) genotypes have been developed with varying levels of early and late leafspot Cercospora arachidicola Hori and Cercosporidium personatum (Berk. and Curt.) Deighton resistance. An understanding of the changes that occur during the growing season among resistance parameters and in vegetative and pod development will be beneficial to crop scientists. In this study, 16 genotypes were grown 30 cm apart within 90-cm rows and evaluated under disease pressure at 10-d intervals during a 2-yr period for disease rating, percentage leaf area necrotic, vegetative (V) stage, total vegetative weight, total pod weight, and partitioning coefficient. In both years, disease ratings differed among genotypes beginning 58 d after planting and were more effective for distinguishing among genotypes throughout the growing season than percentage leaf necrotic area. Fourteen of the 16 genotypes had similar V stages throughout the growing season. Vegetative weights of disease-susceptible cultivars did not exceed 165 g plant-1, while many resistant lines exceeded 250 g plant-1. Susceptible-cultivar partitioning coefficients generally exceeded 80%, while resistant lines ranged from 20 to over 80%. Pod initiation in resistant lines lagged behind that of susceptible cultivars by 10 to 30 d, even if resistant lines had high partitioning coefficients. Use of disease rating combined with selection of high partitioning lines with early initiation of pod production may contribute to development of desirable cultivars. Crop science. Jan/Feb 1990. v. 30 (1). p. 169-175. Includes references. (NAL Call No.: DNAL 64.8 C883).

0228

Variation and evolution of peanut (Arachis hypogaea L.).
Banks, D.J. Washington, D.C. : The Service. Reprints - U.S. Department of Agriculture, Agricultural Research Service. Includes abstract. 1986. 143 . p. 35. (NAL Call No.: DNAL aS21.A8U5/ARS).

0229

Varietal resistance in peanut to aflatoxin production.
PNTSB. Mehan, V.K. McDonald, D.; Ramakrishna, N. Raleigh : American Peanut Research and Education Society. Peanut science. Jan/June 1986. v. 13 (1). p. 7-10. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0230

Yield and market quality of seven peanut genotypes as affected by leafspot disease and harvest date.
PNTSB. Knauft, D.A. Gorbet, D.W.; Norden, A.J. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. Jan/June 1988. v. 15 (1). p. 9-13. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0231

Interference of horsenettle (Solanum carolinense) with peanuts (Arachis hypogaea).
WEESA6. Hackett, N.M. Murray, D.S.; Weeks, D.L. Champaign, Ill. : Weed Science Society of America. Weed science. Nov 1987. v. 35 (6). p. 780-784. Includes references. (NAL Call No.: DNAL 79.8 W41).

0232

Production and nutritive value of florigraze rhizoma peanut in a semiarid climate.
AGJOAT. Ocumpaugh, W.R. Madison, Wis. : American Society of Agronomy. 'Florigraze' rhizoma peanut (Arachis glabrata Benth.) is a warm-season perennial forage legume that has received considerable research emphasis in Florida. However, little is known about its value outside of Florida. A field experiment was conducted on an established stand of Florigraze at Beeville, TX on a Parrita sandy clay loam (Clayey, mixed, hyperthermic, shallow Petrocalcia Paleustolls). Dry matter (DM) production, crude protein (CP) and in vitro digestible dry matter (IVDDM) of leaf blades and stem components were determined by sampling biweekly from June through January for each of two years. Treatments were total-seasonal accumulated growth compared to regrowth of peanut defoliated in mid-July or late-August. A randomized complete block (RCB) design with three replicates was used, and 900-cm2 areas were hand clipped to ground level for yield determinations. Typical for semiarid climate, rainfall was erratic and its distribution varied between years. Total-seasonal DM accumulation of 8 to 10 Mg ha-1 was recorded each season. Rainfall influenced DM production patterns, percent leaf, stem IVDDM, and leaf and stem crude protein (CP). Rainfall and defoliation treatment had no effect on leaf IVDDM. Leaf IVDDM declined slowly during each year (-0.4 to -0.9 g kg-1 d-1) but exceeded 700 g kg-1 during the entire growing season. Florigraze loses leaves in response to drought stress. Autumn leaf production was unaffected by defoliation treatments. Leaf blade CP concentration was 1.7 to 1.9 times greater than that of stems. Because of leaf loss during late summer, spring and early summer production should be harvested in June or July. Forage production and nutritive value were sufficiently high, even under limited rainfall conditions, to warrant further investigation. Agronomy journal. Mar/Apr 1990. v. 82 (2). p. 179-182. Includes references. (NAL Call No.: DNAL 4 AM34P).

0233

Thermal time requirements for Phenological development of peanut.
AGJOAT. Ketring, D.L. Wheless, T.G. Madison, Wis. : American Society of Agronomy. Temperature is a major environmental factor that determines the rate of plant development. Relation of thermal time to phenological development of peanut would provide a better understanding of this crop's response to temperature. Thermal time measured in day-degrees (degrees Cd) was used to determine peanut (Arachis hypogaea L.) phenological development of a spanish botanical-type cultivar, Pronto, and a virginia botanical-type breeding line, OK-FH15. Peanuts were grown under field conditions, on a Teller sandy loam (fine-loamy, mixed, thermic, Udic Argiustoll) in 1985, 1986, and 1987. Irrigation plus rainfall ranged from 840 mm in 1985 to 400 mm in 1987. At 12 d after planting (DAP) when greater than 80% emergence had occurred, 136 +/- 18 degrees Cd had accumulated. Pronto produced more mainstem nodes (vegetative stage) than did OK-FH15. Regression analyses indicated that both vegetative and reproductive development were highly correlated with degrees Cd for both genotypes. Incipient flowering (R1) began at 313 and 360 degrees Cd in 1985 and 1986, respectively. At 50% R1 in 1987, 410 and 498 degrees Cd had accumulated for Pronto and OK-FH15, respectively. Both vegetative and reproductive stage development were slower with less water. Although attainment of a high reproductive stage value (7 to 9) does not indicate a high yield per se, it does indicate the degree of crop maturity. Seasonal accumulation of degrees Cd in 1985, 1986, and 1987 was 1456, 1672, and 1473, respectively. Crop yields (pods) for the full-irrigation treatment were 312, 325, and 288 g m-2 for Pronto and 358, 405, and 308 g m-2 for OK-FH15 in 1985, 1986, and 1987, respectively. Knowledge of degrees Cd accumulated can provide an estimate of harvest date as well as crop development stage. Agronomy journal. Nov/Dec 1989. v. 81 (6). p. 910-917. Includes references. (NAL Call No.: DNAL 4 AM34P).

PLANT STRUCTURE

0234

Effects of the demethylase inhibitor, cyproconazole, on hyphal tip cells of Sclerotium rolfsii. II. An electron microscope study.
EXMYD. Roberson, R.W. Fuller, M.S. Duluth, Minn. : Academic Press. Experimental mycology. June 1990. v. 14 (2). p. 124-135. ill. Includes references. (NAL Call No.: DNAL QK600.E9).

0235

Peanut seed production.
JSTED. Reusche, G.A. East Lansing, Mich. : Association of Official Seed Analysts. Journal of seed technology. 1987. v. 11 (1). p. 88-96. Includes references. (NAL Call No.: DNAL SB113.2.J6).

0236

Activities of the pentose phosphate pathway and enzymes of proline metabolism in legume root nodules.
PLPHA. Kohl, D.H. Lin, J.J.; Shearer, G.; Schubert, K.R. Rockville, Md. : American Society of Plant Physiologists. Based on localization and high activities of pyrroline-5-carboxylate reductase and proline dehydrogenase activities in soybean nodules, we previously suggested two major roles for pyrroline-5-carboxylate in addition to the production of the considerable quantity of proline needed for biosynthesis; namely, transfer of energy to the location of biological N2 fixation, and production of NADP+ to drive the pentose phosphate pathway. The latter produces ribose-5-phosphate which can be used in de novo purine synthesis required for synthesis of ureides, the major form in which biologically fixed N2 is transported from soybean root nodules to the plant shoot. In this paper, we report rapid induction (in soybean nodules) and exceptionally high activities (in nodules of eight species of N2-fixing plants) of pentose phosphate pathway and pyrroline-5-carboxylate reductase. There was a marked increase in proline dehydrogenase activity during soybean (Glycine max) ontogeny. The magnitude of proline dehydrogenase activity in bacteroids of soybean nodules was sufficiently high during most of the time course to supply a significant fraction of the energy requirement for N2 fixation. Proline dehydrogenase activity in bacteroids from nodules of other species was also high. These observations support the above hypothesis. However, comparison of pentose phosphate pathway and pyrroline-5-carboxylate reductase activities of ureide versus amide-exporting nodules offers no support. The hypothesis predicts that pyrroline-5-carboxylate and pentose phosphate pathway activities should be higher in ureide-exporting nodules than in amide-exporting nodules. This predicted distinction was not observed in the results of in vitro assays of these activities. Plant physiology. Nov 1990. v. 94 (3). p. 1258-1264. Includes references. (NAL Call No.: DNAL 450 P692).

0237

Calcium, nitrogen, and rhizobium effects on Arachis hypogaea L. Valencia C.
PNTSB. Taylor, R.G. Moshrefi, K. Raleigh : American Peanut Research and Education Society. Peanut science. Jan/June 1987. v. 14 (1). p. 31-33. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0238

Cassava-cowpea and cassava-peanut intercropping. III. Nutrient concentrations and removal.
AGJOAT. Mason, S.C. Leihner, D.E.; Vorst, J.J. Madison, Wis. : American Society of Agronomy. Agronomy journal. May/June 1986. v. 78 (3). p. 441-444. Includes references. (NAL Call No.: DNAL 4 AM34P).

0239

Cobalt nutrition of pigeonpea and peanut in relation to growth and yield.
JPNUDS. Raj, A.S. New York, N.Y. : Marcel Dekker. Journal of plant nutrition. Paper presented at the "Tenth International Plant Nutrition Colloquium," August 4-9, 1986, Beltsville, Maryland. 1987. v. 10 (9/16). p. 2137-2145. Includes references. (NAL Call No.: DNAL QK867.J67).

0240

Diagnosis of zinc deficiency in peanut (Arachis hypogaea L.) by plant analysis.
CSOSA2. Bell, R.W. Kirk, G.; Plaskett, D.; Loneragan, J.F. New York, N.Y. : Marcel Dekker. Communications in soil science and plant analysis. 1990. v. 21 (3/4). p. 273-285. Includes references. (NAL Call No.: DNAL S590.C63).

0241

The effect of pseudomonas siderophores on iron nutrition of plants.
NASSD. Hadar, Y. Jurkevitch, E.; Chen, Y. New York, N.Y. : Plenum Press. NATO advanced science institutes series : Series A : Life sciences. In the series analytic: Iron, siderophores, and plant diseases / edited by T.R. Swinburne. Paper presented at the "NATO Advanced Research Workshop," July 1-5, 1985, Wye, Kent, England. 1986. v. 117. p. 43-48. Includes references. (NAL Call No.: DNAL QH301.N32).

0242

Foliar application of phosphorus to Spanish peanuts.
AGJOAT. Suwanvesh, T. Morrill, L.G. Madison, Wis. : American Society of Agronomy. Agronomy journal. Jan/Feb 1986. v. 78 (1). p. 54-58. Includes 24 references. (NAL Call No.: DNAL 4 AM34P).

0243

Genetic variability and selection for acetylene reduction in peanut.
CRPSAY. Arrendell, S. Wynne, J.C.; Rawlings, J.O. Madison, Wis. : Crop Science Society of America. Effective manipulation of the symbiotic relationship between peanut (Arachis hypogaea L.) and Bradyrhizobium is aided by an understanding of the genetic mechanisms governing the host contribution. This study was conducted to obtain genetic variance estimates and evaluate the effectiveness of selection for

acetylene reduction. The population under study consisted of 80 F5 lines derived from the single cross of the Virginia-type 'Florigiant' and the Spanish-type 'CES 101'. Estimates of genetic variance components for acetylene reduction were obtained at three sampling dates at each of two locations. Standard errors of the estimates were generally large; however, the tendency was for additive genetic variance to be important at Dates 1 and 3 and for the additive X additive genetic variance to be important at Date 2. The five lines with the highest mean acetylene reduction and the five with the lowest mean acetylene reduction were selected and evaluated in the F6 generation. The mean acetylene reduction of the high selection group, 79.1 micromoles C2H4 plant-1 h-1, was significantly greater than the mean of the low selection group, 52.2 micromoles C2H4 plant-1 h-1, but not different from the mean of the better parent, 89.9 micromoles C2H4 plant-1 h-1. Twenty-eight vegetative, fruit, and seed characters were used to assign the selected lines and original parents to morphological groups. Variability for these traits existed within each of the selection groups. Selected lines, regardless of selection group, did not group with either parent. Adequate genetic variability existed in this late generation population and host genotypes with differing abilities to fix N2 were identified by selection. When the breeding objective is improvement of the N2-fixing ability of Spanish-type peanuts, direct selection for morphological characters may be required if the base population has been derived from a Virginia X Spanish cross. Crop science. Nov/Dec 1989. v. 29 (6). p. 1387-1392. Includes references. (NAL Call No.: DNAL 64.8 C883).

0244

Growth analysis of 'Florigraze' rhizoma peanut: forage nutritive value.
AGJOAT. Saldivar, A.J. Ocumpaugh, W.R.; Gildersleeve, R.R.; Moore, J.E. Madison, Wis. : American Society of Agronomy. 'Florigraze' rhizoma peanut (Arachis glabrata Benth.) is a perennial tropical forage legume grown in Florida and the southern Gulf Coast. Two field studies were conducted near Gainesville, FL on Arredondo loamy sands (loamy, siliceous, hyperthermic, Grossaremic Paleudults) in 1980 and 1981. The objective of these studies was to evaluate nutritive value of Florigraze topgrowth as measured by crude protein (CP) and in vitro digestible organic matter (IVDOM). Experiment 1 was an establishment-year growth analysis study conducted at two sites (years). Experiment 2 was a defoliation-frequency study (0 vs. 2, 6, and 8 wk) conducted in 1981 on plants that were undisturbed at the 1980 site. Samples were taken periodically during the growing season in both years. In Exp. 1, both CP and IVDOM concentrations were characterized by two-stage curves, where CP and IVDOM declined linearly (-0.9 and -0.7 g kg-1 d-1) until September, then stabilized at 125 and 610 g kg-1, respectively. Leaves constituted 60 to 80% of top growth in both years. In Exp. 2, CP and IVDOM declined linearly (-0.3 and -1.0 g kg-1 d-1) during the growing season for all defoliation treatments. Decline in percent leaf in the established plants of Exp. 2 was twice that of undisturbed plants in Exp. 1: -0.10 vs. -0.05 percentage units d-1. There was a sampling date X defoliation treatment interaction ($P < 0.001$) in percent leaf. Values for undefoliated plants were similar to that of Exp. 1, but leaf percentages declined at increasing rates in all defoliation treatments. At four dates in Exp. 1 and three dates in Exp. 2, top growth was separated into leaves and stems for IVDOM analysis. Leaf IVDOM declined linearly (-0.3 g kg-1 d-1), while stem IVDOM declined and then increased slightly from September through December. The data suggested that leafiness can be altered by defoliation management, and in turn, leafiness influences forage nutritive value of Florigraze rhizoma peanut. Agronomy journal. May/June 1990. v. 82 (3). p. 473-477. Includes references. (NAL Call No.: DNAL 4 AM34P).

0245

Growth, respiration, and polypeptide patterns of Bradyrhizobium sp. (Arachis) strain 3G4b20 from succinate- or oxygen-limited continuous cultures.
APMBA. Allen, G.C. Elkan, G.H. Washington, D.C. : American Society for Microbiology. Succinate- or oxygen-limited continuous cultures were used to study the influences of different concentrations of dissolved oxygen and ammonia on the growth, respiration, and polypeptide patterns of Bradyrhizobium sp. (Arachis) strain 3G4b20. During succinate-limited growth, molar growth yields on succinate (Ysucc) ranged from 38.9 to 44.4 g (dry weight) of cells mol of succinate-1 and were not greatly influenced by changes in dilution rates or changes in the oxygen concentrations that we tested. Succinate, malate, and fumarate induced the highest rates of oxygen uptake in all of the steady states in which the supply rates of (NH4)2SO4 ranged between 322 and 976 micromole h-1. However, the amino acids aspartate, asparagine, and glutamate could also be used as respiratory substrates, especially when the (NH4)2SO4 supply rate was decreased to 29 micromole h-1. Glutamine-dependent respiration was seen only when the (NH4)2SO4 supply rate was 29 micromole h-1 and thus appears to be under tight ammonia control. Nitrogenase activity was detected only when the culture was switched from a succinate-limited steady state to an oxygen-limited steady state. Comparison of major silver-stained proteins from three steady states by two-dimensional gel electrophoresis revealed that nearly 60% were affected by oxygen and 24% were affected by ammonia. These data are consistent with reports that oxygen has a major regulatory role over developmental processes in Rhizobium sp. and Bradyrhizobium sp. Applied and environmental microbiology. Apr 1990. v. 56 (4). p. 1025-1032. ill. Includes references. (NAL Call No.: DNAL 448.3 AP5).

0246

Influence of the size of indigenous rhizobial populations on establishment and symbiotic performance of introduced rhizobia on field-grown legumes.
APMBA. Thies, J.E. Singleton, P.W.; Bohlool, B.B. Washington, D.C. : American Society for Microbiology. Indigenous rhizobia in soil present a competition barrier to the establishment of inoculant strains, possibly leading to inoculation failure. In this study, we used the natural diversity of rhizobial species and numbers in our fields to define, in quantitative terms, the relationship between indigenous rhizobial populations and inoculation response. Eight standardized inoculation trials were conducted at five well-characterized field sites on the island of Maui, Hawaii. Soil rhizobial populations ranged from 0 to over 3.5 X 10(4) g of soil-1 for the different legumes used. At each site, no less than four but as many as seven legume species were planted from among the following: soybean (Glycine max), lima bean (Phaseolus lunatus), cowpea (Vigna unguiculata), bush bean (Phaseolus vulgaris), peanut (Arachis hypogaea), Leucaena leucocephala, tinga pea (Lathyrus tingeatus), alfalfa (Medicago sativa), and clover (Trifolium repens). Each legume was (i) inoculated with an equal mixture of three effective strains of homologous rhizobia, (ii) fertilized at high rates with urea, or (iii) left uninoculated. For soybeans, a nonnodulating isoline was used in all trials as the rhizobia-negative control. Inoculation increased economic yield for 22 of the 29 (76%) legume species-site combinations. While the yield increase was greater than 100 kg ha-1 in all cases, in only 11 (38%) of the species-site combinations was the increase statistically significant (P less than or equal to 0.05). On average, inoculation increased yield by 62%. Soybean (G. max) responded to inoculation most frequently, while cowpea (V. unguiculata) failed to respond in all trials. Inoculation responses in the other legumes were site dependent. The response to inoculation and the competitive success of inoculant rhizobia were inversely related to numbers of indigenous rhizobia. As few as 50 rhizobia g of soil-1 eliminated inoculation response. When fewer than 10 indigenous rhizobia g of soil-1 were present,. Applied and environmental microbiology. Jan 1991. v. 57 (1). p. 19-28. Includes references. (NAL Call No.: DNAL 448.3 AP5).

0247

Interactions of iron nutrition and symbiotic nitrogen fixation in peanuts.
JPNUDS. Terry, R.E. Hartzook, A.; Jolley, V.D.; Brown, J.C. New York, N.Y. : Marcel Dekker. Journal of plant nutrition. Paper presented at the "Fourth International Symposium on Iron Nutrition and Interactions in Plants," July 6-9, 1987, University of New Mexico, Albuquerque. June/Nov 1988. v. 11 (6/11). p. 811-820. Includes references. (NAL Call No.: DNAL QK867.J67).

0248

Mobilization of nitrogen-15 from vegetative to reproductive tissue of peanut.
AGJOAT. Kvien, C.S. Weaver, R.W.; Pallas, J.E. Madison, Wis. : American Society of Agronomy. Agronomy journal. Nov/Dec 1986. v. 78 (6). p. 954-958. Includes references. (NAL Call No.: DNAL 4 AM34P).

0249

Modeling symbiotic performance of introduced rhizobia in the field by use of indices of indigenous population size and nitrogen status of the soil.
APMBA. Thies, J.E. Singleton, P.W.; Bohlool, B.B. Washington, D.C. : American Society for Microbiology. Lactococcus lactis subsp. cremoris P8-2-47 contains an X-prolyl dipeptidyl aminopeptidase (X-PDAP; EC 3.4.14.5). A mixed-oligonucleotide probe prepared on the basis of the N-terminal amino acid sequence of the purified protein was made and used to screen a partial chromosomal DNA bank in Escherichia coli. A partial XbaI fragment cloned in pUC18 specified X-PDAP activity in E. coli clones. The fragment was also able to confer X-PDAP activity on Bacillus subtilis. The fact that none of these organisms contain this enzymatic activity indicated that the structural gene for X-PDAP had been cloned. The cloned fragment fully restored X-PDAP activity in X-PDAP-deficient mutants of L. lactis. We have sequenced a 3.8-kb fragment that includes the X-PDAP gene and its expression signals. The X-PDAP gene, designated pepXP, comprises 2,289 nucleotide residues encoding a protein of 763 amino acids with a predicted molecular weight of 87,787. No homology was detected between pepXP and genes that had been previously sequenced. A second open reading frame, divergently transcribed, was present in the sequenced fragment; the function or relationship to pepXP of this open reading frame is unknown. Applied and environmental microbiology. Jan 1991. v. 57 (1). p. 29-37. Includes references. (NAL Call No.: DNAL 448.3 AP5).

0250

Nitrogen nutrition and xylem sap composition of peanut (Arachis hypogaea L. cv Virginia Bunch).
PLPHA. Peoples, M.B. Pate, J.S.; Atkins, C.A.; Bergersen, F.J. Rockville, Md. : American Society of Plant Physiologists. Plant physiology. Dec 1986. v. 82 (4). p. 946-951. Includes references. (NAL Call No.: DNAL 450 P692).

0251

Rhizobium induced mineral uptake in peanut tissues.
JPNUDS. Howell, R.K. New York, N.Y. : Marcel Dekker. Journal of plant nutrition. Paper presented at the "Tenth International Plant Nutrition Colloquium," August 4-9, 1986, Beltsville, Maryland. 1987. v. 10 (9/16). p. 1297-1305. Includes references. (NAL Call No.: DNAL QK867.J67).

0252

Soil pH and manganese effects on manganese nutrition of peanut.
AGJOAT. Parker, M.B. Walker, M.E. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1986. v. 78 (4). p. 614-620. Includes references. (NAL Call No.: DNAL 4 AM34P).

0253

Some effects of mineral nutrition on aflatoxin contamination of corn and peanuts.
Wilson, D.M. Walker, M.E.; Gascho, G.J. St. Paul, Minn. : APS Press, c1989. Soilborne plant pathogens : management of diseases with macro- and microelements / edited by Arthur W. Engelhard. p. 137-151. Includes references. (NAL Call No.: DNAL SB732.87.S66).

0254

Symbiotic relationship between Bradyrhizobium strains and peanut.
CRPSAY. Alwi, N. Wynne, J.C.; Rawlings, J.O.; Schneeweis, T.J.; Elkan, G.H. Madison, Wis. : Crop Science Society of America. Significant host X strain interactions for the amount of N fixed were found in previous factorial experiments of peanut (Arachis hypogaea L.) and Bradyrhizobium strains. The results suggested that specific host-strain combinations should be identified to maximize N fixation. The objectives of this study were to determine if methodology could be developed to reduce the testing required to identify specific host-strain combinations that maximize N fixation. Sixteen peanut cultivars representing four morphological groups inoculated with 29 Bradyrhizobium strains known to be effective on peanut were used to determine if grouping of host genotypes or strain genotypes could be used to limit testing to groups of genotypes instead of individual genotypes. The peanut cultivars grouped using numerical taxonomy of morphological characters reflected the differences in response to rhizobial strains; however, cultivars were not homogeneous within groups for symbiotic traits. Strain variability was the largest component of the phenotypic variability for all traits, and the host plant had larger variability than the cultivar X strain interaction for nodule number, nodule weight, and nodule size. The biplot of shoot weight ratio classified the strains and peanut cultivars into five and four groups, respectively. All cultivars received enough N to appear normal when they were inoculated with effective strains but were quite different in response to symbiotic N. These results suggest that the amount of plant testing required to identify specific strains for a host genotype can be reduced considerably by first classifying the symbionts into groups and eliminating some groups from further testing. Crop science. Jan/Feb 1989. v. 29 (1). p. 50-54. Includes references. (NAL Call No.: DNAL 64.8 C883).

0255

Absorption, translocation, and metabolism of foliar-applied chlorimuron in soybeans (Glycine max), peanuts (Arachis hypogaea), and selected weeds.

WEESA6. Wilcut, J.W. Wehtje, G.R.; Patterson, M.G.; Cole, T.A.; Hicks, T.V. Champaign, Ill. : Weed Science Society of America. Tolerance of species to foliar applications of the ethyl ester of chlorimuron as determined in greenhouse studies with 21-day-old seedlings was: soybean = peanut greater than prickly sida greater than sicklepod greater than Florida beggarweed greater than common cocklebur. Absorption of foliar-applied 14C-chlorimuron 72 h after application was similar in soybean, peanut, sicklepod, common cocklebur, and prickly sida, but much less in Florida beggarweed. Slight symplasmic and apoplasmic translocation of the herbicide was evident in all species. Metabolism of chlorimuron 72 h after application was greatest in soybean and least in common cocklebur. Species tolerance to chlorimuron was directly correlated (r^2 = 0.93) to the amount of unmetabolized chlorimuron (dpm/g dry wt) in the plant. Peanut exhibited increased tolerance to chlorimuron with age; this result was attributed to reduced absorption and translocation and more extensive metabolism of the absorbed herbicide by older plants. Weed science. Mar 1989. v. 37 (2). p. 175-180. Includes references. (NAL Call No.: DNAL 79.8 W41).

0256

Accumulation pattern of arachin in maturing peanut seed.

PNTSB. Basha, S.M. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1989. v. 16 (2). p. 70-73. ill. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0257

Activities of the pentose phosphate pathway and enzymes of proline metabolism in legume root nodules.

PLPHA. Kohl, D.H. Lin, J.J.; Shearer, G.; Schubert, K.R. Rockville, Md. : American Society of Plant Physiologists. Based on localization and high activities of pyrroline-5-carboxylate reductase and proline dehydrogenase activities in soybean nodules, we previously suggested two major roles for pyrroline-5-carboxylate in addition to the production of the considerable quantity of proline needed for biosynthesis; namely, transfer of energy to the location of biological N2 fixation, and production of NADP+ to drive the pentose phosphate pathway. The latter produces ribose-5-phosphate which can be used in de novo purine synthesis required for synthesis of ureides, the major form in which biologically fixed N2 is transported from soybean root nodules to the plant shoot. In this paper, we report rapid induction (in soybean nodules) and exceptionally high activities (in nodules of eight species of N2-fixing plants) of pentose phosphate pathway and pyrroline-5-carboxylate reductase. There was a marked increase in proline dehydrogenase activity during soybean (Glycine max) ontogeny. The magnitude of proline dehydrogenase activity in bacteroids of soybean nodules was sufficiently high during most of the time course to supply a significant fraction of the energy requirement for N2 fixation. Proline dehydrogenase activity in bacteroids from nodules of other species was also high. These observations support the above hypothesis. However, comparison of pentose phosphate pathway and pyrroline-5-carboxylate reductase activities of ureide versus amide-exporting nodules offers no support. The hypothesis predicts that pyrroline-5-carboxylate and pentose phosphate pathway activities should be higher in ureide-exporting nodules than in amide-exporting nodules. This predicted distinction was not observed in the results of in vitro assays of these activities. Plant physiology. Nov 1990. v. 94 (3). p. 1258-1264. Includes references. (NAL Call No.: DNAL 450 P692).

0258

The biosynthesis of sulfoquinovosyldiacylglycerol: studies with groundnut (Arachis hypogaea) leaves.

ABBIA. Gupta, S.D. Sastry, P.S. Duluth, Minn. : Academic Press. Archives of biochemistry and biophysics. Jan 1988. v. 260 (1). p. 125-133. ill. Includes references. (NAL Call No.: DNAL 381 AR2).

0259

Carbohydrates and organic acid in peanut seeds after treatment with a plant growth regulator.

PPGGD. Ross, L.F. Chapital, D.C.; Kvien, C.S. Lake Alfred : The Society. Proceedings annual meeting - Plant Growth Regulator Society of America. 1986. (13th). p. 174-176. Includes references. (NAL Call No.: DNAL SB128.P5).

0260

Carbohydrates and tartaric acid in peanuts from plants treated with a triazole derivative.

PPGGD. Ross, L.F. Kvien, C.S. Lake Alfred, Fla. : The Society. Proceedings annual meeting - Plant Growth Regulator Society of America. 1987. (14th). p. 114-119. Includes references. (NAL Call No.: DNAL SB128.P5).

0261

Cassava-cowpea and cassava-peanut intercropping. II. Leaf area index and dry matter accumulation.

AGJOAT. Mason, S.C. Leihner, D.E.; Vorst, J.J.; Salazar, E. Madison, Wis. : American Society of Agronomy. Agronomy journal. Jan/Feb 1986. v. 78

(1). p. 47-53. Includes references. (NAL Call No.: DNAL 4 AM34P).

0262

Cassava-cowpea and cassava-peanut intercropping. III. Nutrient concentrations and removal.
AGJOAT. Mason, S.C. Leihner, D.E.; Vorst, J.J. Madison, Wis. : American Society of Agronomy. Agronomy journal. May/June 1986. v. 78 (3). p. 441-444. Includes references. (NAL Call No.: DNAL 4 AM34P).

0263

Characteristics of a rare, monosomic peanut (Arachis hypogaea L.--Leguminosae), with implications for haploidy discovery.
AJBOAA. Banks, D.J. Columbus, Ohio : Botanical Society of America. American journal of botany. Includes abstract. 1988. p. 97-98. (NAL Call No.: DNAL 450 AM36).

0264

A comparison of two peanut growth models for Oklahoma.
PNTSB. Grosz, G.D. Elliott, R.L.; Young, J.H. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. Jan/June 1988. v. 15 (1). p. 30-35. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0265

Critical evaporative demands for differential stomatal action in peanut grown in narrow and wide row spacings.
AGJOAT. Erickson, P.I. Stone, J.F.; Garton, J.E. Madison, Wis. : American Society of Agronomy. Agronomy journal. Mar/Apr 1986. v. 78 (2). p. 254-258. Includes references. (NAL Call No.: DNAL 4 AM34P).

0266

Cultivating an indifference to drought.
AGREA. Cooke, L. Kaplan, K. Washington, D.C. : The Administration. Agricultural research - U.S. Department of Agriculture, Agricultural Research Service. Aug 1988. v. 36 (7). p. 8-9. ill. (NAL Call No.: DNAL 1.98 AG84).

0267

Diagnosis of zinc deficiency in peanut (Arachis hypogaea L.) by plant analysis.
CSOSA2. Bell, R.W. Kirk, G.; Plaskett, D.; Loneragan, J.F. New York, N.Y. : Marcel Dekker. Communications in soil science and plant analysis. 1990. v. 21 (3/4). p. 273-285. Includes references. (NAL Call No.: DNAL S590.C63).

0268

Diffusion of moisture as a function of fourier and biot numbers.
TAAEA. Walton, L.R. Payne, F.A.; Ross, I.J. St. Joseph, Mich. : American Society of Agricultural Engineers. Transactions of the ASAE. Mar/Apr 1988. v. 31 (2). p. 603-607. Includes references. (NAL Call No.: DNAL 290.9 AM32T).

0269

Diniconazole's effect on peanut (Arachis hypogaea L.) growth and development.
JPGRDI. Kvien, C.S. Csinos, A.S.; Ross, L.F.; Conkerton, E.J.; Styer, C. New York, N.Y. : Springer. Journal of plant growth regulation. 1987. v. 6 (4). p. 233-244. ill. Includes references. (NAL Call No.: DNAL QK745.J6).

0270

Dry matter accumulation and nutrient uptake of high-yielding peanut (Arachis Hypogaea L.) grown in a sandy soil.
PNTSB. Halevy, J. Hartzook, A. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. Jan/June 1988. v. 15 (1). p. 5-8. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0271

The effect of a plant growth regulator on peanut vine growth, yield and seed composition.
Ross, L.F. Daigle, D.J.; Conkerton, E.J.; Kvien, C.S.; Rittig, F.R.; McCombs, C. New Brunswick, N.J. : Plant Growth Regulator Society of America. Quarterly - PGRSA. Jan/Mar 1990. v. 18 (1). p. 18-25. Includes references. (NAL Call No.: DNAL QK745.P55).

0272

Effect of ethrel seed treatment on growth, yield, and grade of two Virginia-type peanut cultivars.
PNTSB. Coffelt, T.A. Howell, R.K. Raleigh : American Peanut Research and Education Society. Peanut science. July/Dec 1986. v. 13 (2). p. 60-63. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0273

Effect of pyridazinone herbicides on lipid metabolism in groundnut (Arachis hypogaea) leaves.
PCBPB. Rajasekharan, R. Sastry, P.S. Duluth, Minn. : Academic Press. Pesticide biochemistry and physiology. Oct 1987. v. 29 (2). p. 163-175. Includes references. (NAL Call No.: DNAL SB951.P49).

0274

Effects of lesser cornstalk borer (Lepidoptera: Pyralidae) feeding at selected plant growth stages on peanut growth and yield.
JEENAI. Mack, T.P. Backman, C.B.; Drane, J.W. College Park, Md. : Entomological Society of America. A greenhouse study was conducted to quantify the relationship of peanut (Arachis hypogaea L. var Florunner) plant damage to plant phenology and lesser cornstalk borer, Elasmopalpus lignosellus (Zeller), larval density Five plant growth stages, five lesser cornstalk borer (LCB) larval densities, and nine replicates were used in the study. Overall survival of larvae to adulthood was 46.90 +/- 0.02% (-/x +/- SEM). Less than 3.60% of pods were damaged when less than or equal to 4 larvae were used to infest a plant, whereas greater than or equal to 7.08% were damaged when or 8 larvae were used. A greater percentage of plants infested at stage greater than or equal to R5 had damaged seeds than those infested at less than or equal to R3. Undamaged pod and seed, and root dry weight declined linearly with an increase in LCB density. An economic injury level of 3.63 to 5.44 larvae per row-meter was calculated based on 5.82% loss in undamaged pod dry weight per LCB. Journal of economic entomology. Oct 1988. v. 81 (5). p. 1478-1484. Includes references. (NAL Call No.: DNAL 421 J822).

0275

Effects of the demethylase inhibitor, cyproconazole, on hyphal tip cells of Sclerotium rolfsii. II. An electron microscope study.
EXMYD. Roberson, R.W. Fuller, M.S. Duluth, Minn. : Academic Press. Experimental mycology. June 1990. v. 14 (2). p. 124-135. ill. Includes references. (NAL Call No.: DNAL QK600.E9).

0276

EPTC metabolism in corn, cotton, and soybean: identification of a novel metabolite derived from the metabolism of a glutathione conjugate.
JAFCAU. Lamoureux, G.L. Rusness, D.G. Washington, D.C. : American Chemical Society. Journal of agricultural and food chemistry. Jan/Feb 1987. v. 35 (1). p. 1-7. Includes references. (NAL Call No.: DNAL 381 J8223).

0277

Expression of resistance to Meloidogyne arenaria in Arachis batizocoi and A. cardenasii.
JONEB. Nelson, S.C. Starr, J.L.; Simpson, C.E. Lake Alfred, Fla. : Society of Nematologists. Journal of nematology. July 1990. v. 22 (3). p. 423-425. Includes references. (NAL Call No.: DNAL QL391.N4J62).

0278

Field evaluations of peanut cultivar-Bradyrhizobium specificities.
PNTSB. Phillips, T.D. Wynne, J.C.; Elkan, G.H.; Schneeweis, T.J. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. Jan/June 1989. v. 16 (1). p. 54-57. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0279

Gas exchange rate and yield responses of Virginia-type peanut to carbon dioxide enrichment.
CRPSAY. Chen, J.J. Sung, J.M. Madison, Wis. : Crop Science Society of America. Poor seed fill and resultant seed-coat shriveling occur commonly on Virginia-type peanut (Arachis hypogaea L.) grown in Taiwan. The phenomenon may be linked to the limitation in photosynthate supply at seed filling. The objective of this study was to evaluate the effect of CO2 enrichment (1000 microliters CO2 L-1) and depegging on CO2 exchange rate (CER) and yield responses of pot-grown Virginia-type peanut. Carbon dioxide enrichments were applied to the plants at pod filling. Depegging effect was examined contrasting the controls and the plants maintaining 38 to 40 pegs throughout the growing period. The results indicated that short-term CO2, enrichment (CO2 treatment for 10 d) improved leaf and canopy CER. Long-term CO2 enrichment (CO2 treatments throughout pod filling) tended to ease leaf ribulose 1,5-bisphosphate carboxylase/oxygenase (rubisco) and chlorophyll (chl) deteriorations. Electrophoresis patterns of leaf soluble protein extracts confirmed this finding. Seed yield per plant was increased with high CO2 treatment applied at seed-filling period, but the production of marketable seeds was improved only in the plants receiving CO2 and depegging treatments. The poor seed-fill characteristic observed in Virginia-type peanut is attributed to excessive sink load and low canopy CER. Crop science. Sept/Oct 1990. v. 30 (5). p. 1085-1089. ill. Includes references. (NAL Call No.: DNAL 64.8 C883).

0280

Growth and development of Florida beggarweed in peanuts.
SWSPBE. Cardina, J. Raleigh, N.C. : The Society . Proceedings - Southern Weed Science Society. Paper presented at the "Meeting on Environmental Legislation and its Effects on Weed Science," Jan 18/20, 1988, Tulsa, Oklahoma.~ Includes abstract. 1988. v. 41. p. 300. (NAL Call No.: DNAL 79.9 S08 (P)).

0281

Growth and development of the Florunner peanut cultivar as influenced by population, planting date and water availability.
PNTSB. Kvien, C.S. Bergmark, C.L. Raleigh : American Peanut Research and Education Society. Peanut science. Jan/June 1987. v. 14 (1). p. 11-16. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0282

Growth and partitioning characteristics of four peanut genotypes differing in resistance to late leafspot.
CRPSAY. Pixley, K.V. Boote, K.J.; Shokes, F.M.; Gorbet, D.W. Madison, Wis. : Crop Science Society of America. Genetic resistance in peanut (Arachis hypogaea L.) to foliar disease caused by Cercospora arachidicola Hori (CA) and Cercosporidium personatum (Berk. & Curt.) Deighton (CP) has usually been associated with low yields and late maturity. Some recently developed genotypes have partial resistance to CP and good yield potential. This study was conducted to understand growth and partitioning characteristics that contribute to yield potential of three leafspot-resistant genotypes relative to the widely grown but susceptible cultivar Florunner. Crop growth, vegetative growth, reproductive growth, partitioning intensity of Florunner, 'Southern Runner', F81206, and MA72x94-12 were measured in field studies during two seasons in the presence or absence of fungicidal control of leafspots. In fungicide treated plots, the genotypes had similar crop growth rates, but differed in assimilate partitioning to pod growth (92, 80, 77, and 53% for Florunner, Southern Runner, F81206, and MA72x94-12, respectively). In treated plots, high partitioning of assimilate to pods and early onset of pod fill enabled Florunner to achieve high yield in 127 d. In untreated plots, this high intensity of partitioning to pods limited Florunner's leaf production during pod fill and precluded replacement of diseased leaves. By contrast, Southern Runner, F81206, and MA72x94-12 compensated partially for leafspot-induced defoliation; later onset of pod fill (6 to 16 d) and lower partitioning to pods allowed greater leaf area growth during pod fill. A combination of leafspot resistance, lower partitioning to pods (allowing leaf growth), and slightly longer pod fill resulted in satisfactory yields from Southern Runner and F81206 without fungicidal control of leafspot. Crop science. July/Aug 1990. v. 30 (4). p. 796-804. Includes references. (NAL Call No.: DNAL 64.8 C883).

0283

Growth regulator effects on the composition of seed of five peanut cultivars.
AGJOAT. Mozingo, R.W. Steele, J.L.; Young, C.T. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1986. v. 78 (4). p. 645-648. Includes 14 references. (NAL Call No.: DNAL 4 AM34P).

0284

In vitro plant regeneration of peanut from seed explants.
CRPSAY. McKently, A.H. Moore, G.A.; Gardner, F.P. Madison, Wis. : Crop Science Society of America. An efficient system of plant regeneration is critical to the success of newly developing genetic manipulation techniques as tools for crop improvement programs. This study was designed to assess the regeneration response of explants taken from the seed of peanut (Arachis hypogaea L.). Complete plants were regenerated from in vitro-cultured embryo axes and embryonated and deembryonated cotyledons that were whole and sectioned. Multiple shoots arose on 6-benzylaminopurine (BA) supplemented Murashige and Skoog media (0.5-60 mg L-1), with maximum production occurring at 25 mg L-1. Large quantities of shoots were obtained from single whole embryonated cotyledon explants cultured on BA-supplemented medium for periods up to 238 d. Excised shoots developed roots in vitro upon transfer to medium supplemented with 1-napthaleneacetic acid (NAA) at 1 mg L-1 for 30 d. In vitro-produced plantlets transferred to soil and placed in a greenhouse developed successfully, matured, and set seed. Twenty genotypes were regenerated using this tissue culture system. No phenotypic variants were observed among any of the plants produced in these experiments. Thus, this system allows for the in vitro production of morphologically normal peanut plants at high frequencies. Crop science. Jan/Feb 1990. v. 30 (1). p. 192-196. ill. Includes references. (NAL Call No.: DNAL 64.8 C883).

0285

Increased susceptibility and reduced phytoalexin accumulation in drought-stressed peanut kernels challenged with Aspergillus flavus.
APMBA. Wotton, H.R. Strange, R.N. Washington, D.C. : American Society for Microbiology. Applied and environmental microbiology. Feb 1987. v. 53 (2). p. 270-273. Includes references. (NAL Call No.: DNAL 448.3 AP5).

0286

Isoosmotic regulation of cotton and peanut at saline concentrations of K and Na.
PLPHA. Lauter, D.J. Meiri, A.; Shuali, M. Rockville, Md. : American Society of Plant Physiologists. Plant physiology. Aug 1988. v. 87 (4). p. 911-916. Includes references. (NAL Call No.: DNAL 450 P692).

0287

Mechanisms of differential inhibitory effects of sodium sulfanilate on folic acid biosynthesis in plants.
PCBPB. Lin, K.H. Zhang, L.H. Duluth, Minn. : Academic Press. Pesticide biochemistry and physiology. Sept 1988. v. 32 (1). p. 17-24. Includes references. (NAL Call No.: DNAL SB951.P49).

0288

Mobilization of nitrogen-15 from vegetative to reproductive tissue of peanut.
AGJOAT. Kvien, C.S. Weaver, R.W.; Pallas, J.E. Madison, Wis. : American Society of Agronomy. Agronomy journal. Nov/Dec 1986. v. 78 (6). p. 954-958. Includes references. (NAL Call No.: DNAL 4 AM34P).

0289

Nitrate reductase activity in seeds and seedlings of tropical species.
Udoh, A.M. Tobin, A.K.; Proudlove, M.O.; Moore, A.L. New York : Plenum Press, c1987. Plant mitochondria : structural, functional, and physiological aspects / edited by A.L. Moore and R.B. Beechey. p. 405-408. Includes references. (NAL Call No.: DNAL QK725.P63).

0290

Nitrogen nutrition and xylem sap composition of peanut (Arachis hypogaea L. cv Virginia Bunch).
PLPHA. Peoples, M.B. Pate, J.S.; Atkins, C.A.; Bergersen, F.J. Rockville, Md. : American Society of Plant Physiologists. Plant physiology. Dec 1986. v. 82 (4). p. 946-951. Includes references. (NAL Call No.: DNAL 450 P692).

0291

Peanut seed production.
JSTED. Reusche, G.A. East Lansing, Mich. : Association of Official Seed Analysts. Journal of seed technology. 1987. v. 11 (1). p. 88-96. Includes references. (NAL Call No.: DNAL SB113.2.J6).

0292

Pod characteristics influencing calcium concentrations in the seed and hull of peanut.
CRPSAY. Kvien, C.S. Branch, W.D.; Sumner, M.E.; Csinos, A.S. Madison, Wis. : Crop Science Society of America. Calcium is often a limiting factor in peanut (Arachis hypogaea L.) production. Since the peanut fruit develops underground, it will not transpire root absorbed water. Therefore, the developing fruit must absorb phloem--immobile ions such as Ca directly from the soil solution. This experiment's objective was to determine the influence of several pod characteristics on Ca accumulation and Ca concentration in peanut fruit. Eight genotypes with diverse fruit characteristics were grown for two seasons under five water stress treatments drought 20 to 50 d after planting (DAP), 50 to 80 DAP, 80 to 110 DAP, 110 to 140 DAP, and a well-watered control . The 80-to 110-DAP drought period had the greatest negative impact on seed Ca concentrations. Total Ca accumulation in the pod (hull + seed) was positively correlated (0.97) to pod surface area. However, five pod characteristics (days required to mature a pod, specific hull weight, pod surface area, hull thickness, and pod volume) significantly influenced seed and hull Ca concentrations. These characteristics were under genetic control, but their absolute value was modified by water stress. Supply of Ca to the seed may be analogous to a filter system. Thin, light hulls and long pod maturity periods promote high Ca concentrations in the seed. Thick, dense hulls, short maturity periods, and small pod volumes promote high Ca concentrations in the hull. Crop science. July/Aug 1988. v. 28 (4). p. 666-671. Includes references. (NAL Call No.: DNAL 64.8 C883).

0293

Production and preliminary characterization of monoclonal antibodies against cationic peanut peroxidase.
PLPHA. Hu, C. Carbonera, D.; Van Huystee, R. Rockville, Md. : American Society of Plant Physiologists. Plant physiology. Sept 1987. v. 85 (1). p. 299-303. ill. Includes references. (NAL Call No.: DNAL 450 P692).

0294

Propachlor metabolism in soybean plants, excised soybean tissues, and soil.
PCBPB. Lamoureux, G.L. Rusness, D.G. Duluth, Minn. : Academic Press. Pesticide biochemistry and physiology. July 1989. v. 34 (3). p. 187-204. Includes references. (NAL Call No.: DNAL SB951.P49).

0295

Purification and characterization of a novel 4-methyleneglutamine synthetase from germinated peanut cotyledons (Arachis hypogaea).
JBCHA3. Winter, H.C. Dekker, E.E. Baltimore, Md. : American Society of Biological Chemists. The Journal of biological chemistry. Aug 25, 1986. v. 261 (24). p. 11189-11193. Includes references. (NAL Call No.: DNAL 381 J824).

0296

Qualitative and quantitative changes in the protein composition of peanut (Arachis hypogaea L.) seed following infestation with Aspergillus spp. differing in aflatoxin production.
JAFCAU. Basha, S.M. Pancholy, S.K. Washington, D.C. : American Chemical Society. Journal of agricultural and food chemistry. July/Aug 1986. v. 34 (4). p. 638-643. Includes references. (NAL Call No.: DNAL 381 J8223).

0297

Reaction of peanut genotypes under drought stress to Aspergillus flavus and A. parasiticus.
PNTSB. Azaizeh, H.A. Pettit, R.E.; Smith, D.D.; Taber, R.A. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1989. v. 16 (2). p. 109-113. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0298

Reproductive efficiency of 14 Virginia-type peanut cultivars.
CRPSAY. Coffelt, T.A. Seaton, M.L.; VanScoyoc, S.W. Madison, Wis. : Crop Science Society of America. The reproductive efficiency (RE) of most peanut (Arachis hypogaea L.) cultivars has not been studied and methods for estimating RE have not been consistent. The objective of this study was to determine the changes in RE of 14 Virginia-type peanut cultivars due to breeding efforts since 1944. The cultivars varied in release date, maturity, growth habit, and developmental breeding method. Field experiments were conducted at the Tidewater Agricultural Experiment station, Suffolk, VA on two-row plots 0.9 m wide by 6.1 m long. Plantings were made on 16 May 1983 on an Eunola loamy fine sand (fine-loamy, siliceous, thermic Aquic Hapludult) and on 10 May 1984 on a Nanseumond fine sandy loam (coarse-loamy, siliceous, thermic Aquic Hapludult). Two randomly chosen plants were selected from each cultivar from each of four replicates for evaluation. Five methods of estimating reproductive efficiency (REM) were used: REM 1 = harvest index or (mature pod dry weight) (plant dry weight)-1; REM 2 = (mature pod total) (flower total)-1; REM 3 = (pod total) flower total)-1; REM 4 = (peg total + pod total) (flower total)-1; and REM 5 = (mature seed total) (flower total X 2)-1. Results indicated that earlier maturing cultivars had a greater RE than later maturing cultivars, erect cultivars had a greater RE than spreading cultivars, and RE was not affected by breeding method. Newer cultivars had a higher RE as estimated by REM 1 than older cultivars, but not as estimated by REM 2, 3, 4, and 5. The higher yield of most newer cultivars apppeared to be related more to total flower production than to RE. Future increases for yield might best be accomplished by developing cultivars with combinations of high RE, harvest index, and total flower count. Crop science. Sept/Oct 1989. v. 29 (5). p. 1217-1220. Includes references. (NAL Call No.: DNAL 64.8 C883).

0299

The residual effect of sewage sludge on heavy metal content of tobacco and peanut.
JEVQAA. King, L.D. Hajjar, L.M. Madison, Wis. : American Society of Agronomy. Sewage sludge normally would not be applied on land where peanut (Arachis hypogaea L.) or tobacco (Nicotiana tabacum L.) are being grown because of possible contamination of peanut with pathogens and increased Cd concentration in tobacco. These crops, however, might be grown in rotation with other crops to which sludge had been applied. The residual effect of sewage sludge on metal concentrations in tobacco and peanut was evaluated in a greenhouse pot experiment with a Typic Hapludult soil from a field that received aerobically digested municipal sewage sludge at 0, 9, 18, and 27 Mg ha-1yr-1 for 3 yr. Cumulative amount of metals applied at the 27-Mg rate were (kg ha-1) 1.8 Cd, 39 Cu, 48 Cr, 9 Ni, 30 Pb, and 84 Zn. Sulfuric acid or Ca(OH)2 was used to effect three soil pH regimes: 5.2, 5.8, and 6.4 (median value within each regime). Tobacco ('Speight G-28') was grown to flowering and peanut (NC 7) was grown to maturity. At the termination of the experiment, soils were extracted with diethylenetriaminepentaacetic acid (DTPA) and Mehlich 3 extractant (M3) for metal analysis. Tobacco dry weight (averaged over pH) increased from 66 g pot-1 with no sludge to 94 g pot-1 at the highest sludge rate. Peanut kernel yield (averaged over pH) was depressed at the highest rate (35 g pot-1) as compared to the lower rates (mean of 48 g pot-1). At low pH peanut top growth was depressed by sludge (probably a result of Zn toxicity) and no kernels were formed at the medium and high rates. Sludge rates and soil pH had little effect on concentration of Cr and Pb in tobacco or peanut. Concentration of Cd, Ni, and Zn in tobacco and in peanut top growth decreased as soil pH increased to 5.8 to 6.0 but no decrease was noted at higher pH. Sludge rate effect was significant at low pH but diminished as pH increased. Concentration of Cd, Ni, and Zn declined but Cu concentration increased with increasing height of leaf on the tobacco stalk. Results of stepwise multiple regression using linear ar Journal of environmental quality. Oct/Dec 1990. v. 19 (4). p. 738-748. Includes references. (NAL Call No.: DNAL QH540.J6).

0300

Response of peanut to strains of Bradyrhizobium and N fertilizer.
CSDSA2. Kvien, C.S. Pallas, J.E. New York, N.Y. : Marcel Dekker. Communications in soil science and plant analysis. May 1986. v. 17 (5). p. 497-513. Includes 28 references. (NAL Call No.: DNAL S590.C63).

0301

Simulation of peanut growth in Oklahoma.
Grosz, G.D. Elliott, R.L.; Young, J.H. St. Joseph, Mich. : The Society. American Society of Agricultural Engineers (Microfiche collection). Paper presented at the 1986 Winter Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Drder Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Drder Dept. at (616) 429-0300 for information and prices. 1986. (fiche no. 86-2598). 21 p. Includes references. (NAL Call No.: DNAL FICHE S-72).

0302

Simulation of peanut root growth.
Singh, P. Young, J.H. St. Joseph, Mich. : The Society. American Society of Agricultural Engineers (Microfiche collection). Paper presented at the 1988 Summer Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Drder Dept. at (616) 429-0300 for information and prices. 1988. (fiche no. 88-2101). 27 p. ill. Includes references. (NAL Call No.: DNAL FICHE S-72).

0303

Theoretical basis of protocols for seed storage.
PLPHA. Vertucci, C.W. Roos, E.E. Rockville, Md. : American Society of Plant Physiologists. The protocols presently established for optimum seed storage do not account for the chemical composition of different seed species, the physiological status of the seed, and the physical status of water within the seed. The physiological status of seeds from five species with varying chemical compositions was determined by measurements of rates of oxygen uptake and seed deterioration. The physical status of water was determined by water sorption characteristics. For each species studied, there was a specific moisture content for the onset of respiration, chemical reactions, and accelerated aging rates. The moisture contents at which these physiological levels were observed varied among the species and correlated with the lipid content of the seed. However, the changes in physiological activities and the physical status of water occurred at specific relative humidities: 91% for the onset of respiration, 27% for the increased rates of thermal-chemical reactions, and 19% for optimum longevity. Based on these observations, we propose that equilibrating seeds between 19 and 27% relative humidity provides the optimum moisture level for maintaining seed longevity during long-term storage. Plant physiology. Nov 1990. v. 94 (3). p. 1019-1023. Includes references. (NAL Call No.: DNAL 450 P692).

0304

Thermal time requirements for Phenological development of peanut.
AGJDAT. Ketring, D.L. Wheless, T.G. Madison, Wis. : American Society of Agronomy. Temperature is a major environmental factor that determines the rate of plant development. Relation of thermal time to phenological development of peanut would provide a better understanding of this crop's response to temperature. Thermal time measured in day-degrees (degrees Cd) was used to determine peanut (Arachis hypogaea L.) phenological development of a spanish botanical-type cultivar, Pronto, and a virginia botanical-type breeding line, DK-FH15. Peanuts were grown under field conditions, on a Teller sandy loam (fine-loamy, mixed, thermic, Udic Argiustoll) in 1985, 1986, and 1987. Irrigation plus rainfall ranged from 840 mm in 1985 to 400 mm in 1987. At 12 d after planting (DAP) when greater than 80% emergence had occurred, 136 +/- 18 degrees Cd had accumulated. Pronto produced more mainstem nodes (vegetative stage) than did DK-FH15. Regression analyses indicated that both vegetative and reproductive development were highly correlated with degrees Cd for both genotypes. Incipient flowering (R1) began at 313 and 360 degrees Cd in 1985 and 1986, respectively. At 50% R1 in 1987, 410 and 498 degrees Cd had accumulated for Pronto and DK-FH15, respectively. Both vegetative and reproductive stage development were slower with less water. Although attainment of a high reproductive stage value (7 to 9) does not indicate a high yield per se, it does indicate the degree of crop maturity. Seasonal accumulation of degrees Cd in 1985, 1986, and 1987 was 1456, 1672, and 1473, respectively. Crop yields (pods) for the full-irrigation treatment were 312, 325, and 288 g m-2 for Pronto and 358, 405, and 308 g m-2 for OK-FH15 in 1985, 1986, and 1987, respectively. Knowledge of degrees Cd accumulated can provide an estimate of harvest date as well as crop development stage. Agronomy journal. Nov/Dec 1989. v. 81 (6). p. 910-917. Includes references. (NAL Call No.: DNAL 4 AM34P).

0305

Tobacco thrips (Thysanoptera: Thripidae) number after peanut foliage bud and flower excision.
JEENAI. Tappan, W.B. College Park, Md. : Entomological Society of America. Journal of economic entomology. Aug 1986. v. 79 (4). p. 1082-1084. Includes references. (NAL Call No.: DNAL 421 J822).

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Triacylglycerol synthesis in developing seeds of groundnut (Arachis hypogaea): pathway and properties of enzymes of sn-glycerol 3-phosphate formation.
ABBIA. Ghosh, S. Sastry, P.S. Duluth, Minn. : Academic Press. Archives of biochemistry and biophysics. May 1, 1988. v. 262 (2). p. 508-516. Includes references. (NAL Call No.: DNAL 381 AR2).

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Triazole growth regulator in peanuts from treated plants.
PPGGD. Daigle, D.J. Ross, L.F.; Conkerton, E.J.; Kvien, C.S. Lake Alfred, Fla. : The Society. Proceedings annual meeting - Plant Growth Regulator Society of America. 1987. (14th). p. 108-113. Includes references. (NAL Call No.: DNAL SB128.P5).

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Variation and evolution of peanut (Arachis hypogaea L.).
Banks, D.J. Washington, D.C. : The Service. Reprints - U.S. Department of Agriculture, Agricultural Research Service. Includes abstract. 1986. 143 . p. 35. (NAL Call No.: DNAL aS21.A8U5/ARS).

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AUNUTS--AAES developed expert system helps manage peanut pests.
HARAA. Davis, D.P. Mack, T.P.; Rodriguez-Kabana, R.; Backman, P.A. Auburn University, Ala. : The Station. Highlights of agricultural research - Alabama Agricultural Experiment Station. Winter 1989. v. 36 (4). p. 11. (NAL Call No.: DNAL 100 AL1H).

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The package approach to growing peanuts.
APPYA. Luttrell, E.S. Palo Alto, Calif. : Annual Reviews, Inc. Annual review of phytopathology. 1989. v. 27. p. 1-10. (NAL Call No.: DNAL 464.8 AN72).

0311

Peanut integrated pest management.
Linker, H.M. Raleigh, N.C. : The Service. AG - North Carolina Agricultural Extension Service, North Carolina State University. In series analytic: 1989 Peanuts / prepared by Sullivan, G.A., Linker, H.M. ... et al. . Jan 1989. (331,rev.). p. 26-31. (NAL Call No.: DNAL S544.3.N6N62).

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The protection of peanuts, January 1979-July 1985 citations from AGRICOLA concerning diseases and other environmental considerations /compiled and edited by Charles N. Bebee. --.
Bebee, Charles N. Beltsville, Md. : U.S. Dept. of Agriculture, National Agricultural Library ; Washington, D.C. : U.S. Environmental Protection Agency, Office of Pesticides Programs, 1986. "March 1986."~ Includes index.~ "United States Environmental Protection Agency, Office of Pesticides Programs.". 107 p. ; 28 cm. --. (NAL Call No.: DNAL aZ5076.A1U54 no.45).

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1988-89 pest management guide for peanuts.
Luna, J.M. (tech. coordinator). Blacksburg, Va. : Extension Division, Virginia Polytechnic Institute and State University. Publication - Virginia Cooperative Extension Service. Jan 1988. (456-013,rev.). 22 p. (NAL Call No.: DNAL S544.3.V8V52).

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1989 peanut pest management: weed, insect, disease & nematode control recommendations.
Auburn, Ala. : The Service. Circular ANR - Alabama Cooperative Extension Service, Auburn University. Dec 1988. (360). 11 p. ill. (NAL Call No.: DNAL S544.3.A2C47).

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Everest, J.W. Hartzog, D. Auburn, Ala. : The Service. Circular ANR - Cooperative Extension Service, Auburn University. Jan 1987. (360). 12 p. ill. (NAL Call No.: DNAL S544.3.A2C47).

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1988 peanut pest management. Weed, insect, disease and nematode control recommendations.
Everest, J.W. Hartzog, D.; Hagan, A.; Weeks, J.R.; French, J.C.; Mack, T.P. Auburn, Ala. : The Service. Circular ANR - Cooperative Extension Service, Auburn University. In subseries: Integrated Pest Management. Dec 1987. (360). 12 p. ill. (NAL Call No.: DNAL S544.3.A2C47).

0317

Bean yellow mosaic virus isolate that infects peanut (Arachis hypogaea).
PLDRA. Bays, D.C. Demski, J.W. St. Paul, Minn. : American Phytopathological Society. Plant disease. July 1986. v. 70 (7). p. 667-669. ill. Includes 14 references. (NAL Call No.: DNAL 1.9 P69P).

0318

Beliefs of farmers and adoption of integrated pest management.
Musser, W.N. Wetzstein, M.E.; Reece, S.Y.; Varca, P.E.; Edwards, D.M.; Douce, G.K. Washington, D.C. : The Service. Extract: Georgia peanut farmers have adopted integrated pest management (IPM) on only a limited basis, although objective data indicate that IPM technology may be more efficient than conventional pest control strategies. Users and nonusers of IPM hold different views pertaining to the consequences of employing IPM. These beliefs influence its use. Educational programs on these beliefs should influence adoption and continued use of IPM. This article analyzes belief data pertaining to IPM among 192 Georgia peanut farmers and explores the relationship between beliefs about IPM and its adoption. Agricultural economics research - United States Dept. of Agriculture, Economic Research Service. Winter 1986. v. 38 (1). p. 34-44. Includes 28 references. (NAL Call No.: DNAL AGE 1 EC7AGR).

0319

Comparative studies on field performance of Heliothis larval parasitoids Microplitis croceipes and cardiochiles nigriceps at varying densities and under selected host plant conditions.
FETMA. Lewis, W.J. Gross, H.R. Gainesville, Fla. : Florida Entomological Society. Florida entomologist. Mar 1989. v. 72 (1). p. 6-14. Includes references. (NAL Call No.: DNAL 420 F662).

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Comparison of five food sources for use in bioassaying soil insecticides against the lesser cornstalk borer (Lepidoptera: Pyralidae).
JESCEP. Miller, M.K. Mack, T.P. Tifton, Ga. : Georgia Entomological Society. Journal of entomological science. Apr 1990. v. 25 (2). p. 311-316. Includes references. (NAL Call No.: DNAL QL461.G4).

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Diniconazole's effect on peanut (Arachis hypogaea L.) growth and development.
JPGRDI. Kvien, C.S. Csinos, A.S.; Ross, L.F.; Conkerton, E.J.; Styer, C. New York, N.Y. : Springer. Journal of plant growth regulation. 1987. v. 6 (4). p. 233-244. ill. Includes references. (NAL Call No.: DNAL QK745.J6).

0322

Ecology of spiders (Araneae) in a peanut agroecosystem.
EVETEX. Agnew, C.W. Smith, J.W. Jr. Lanham, Md. : Entomological Society of America. Spider populations were studied in three peanut fields in the Texas West Cross-Timbers region during the 1981 and 1982 growing seasons. Hunting species made up 85.8 and 91.7% of the spider fauna during 1981 and 1982, respectively; the remainder were web-builders. Three hunting families, Oxyopidae, Lycosidae, and Thomisidae, were dominant, constituting 74.6% of the total spider fauna for the two study years. Each family in turn was dominated by a single species. Oxyopes salticus Hentz (Oxyopidae) constituted 37.3% of the total spider fauna in 1982 and 16.2% in 1981. The Lycosidae were dominated by Pardosa pauxilla Montgomery and, as a family, were 31.0% of the fauna in 1981 and 26.6% in 1982. The Tomisidae were dominated by the Misumenops spp., mostly M. celer (Hentz). The Misumenops spp. were 14.0% and 14.1% of the spider fauna in 1981 and 1982, respectively. Spider abundance generally increased as the growing season progressed and plant size and structure increased. Lycosids were dependent on a closed plant canopy and were most successful in irrigated fields. Populations of most species, especially lycosids, declined in drought-stressed rain-fed fields, except Misumenops spp., which were most successful under rain-fed conditions. Ballooning activity of spiders was determined from suction trap samples in 1982; results showed O. salticus to be the most numerous aeronaut. The Araneidae and Linyphiidae were next most abundant in suction trap collections, although these and other web-building species constituted only 11.3% of the peanut spider fauna for the two study years. Identification of spider prey revealed a preference for Hemiptera (32.7%), with Lepidoptera and other Araneae constituting 17.3% each. Pest species taken as prey included Heliothis spp., Stegasta bosqueella (Chambers), leafhoppers, and thrips (Frankliniella spp.). Entomophagous species constituted about one -half the spider diet. Environmental entomology. Feb 1989. v. 18. p. 30-42. Includes references. (NAL Call No.: DNAL QL461.E532).

0323

Economic analysis of controlling a potential pest threat to Texas: Whitefringed beetle.
AAREEZ. Eggert, S.D. Ervin, R.T.; Segarra, E. New York, N.Y. : Springer. Known to occur east and most recently west of Texas, the whitefringed beetle's introduction into Texas poses questions as to the potential economic impact created by its presence in agricultural production. Levels of damage caused by this pest were estimated and compared to control costs in Texas. Damage to alfalfa, peanuts and potatoes was considered. Using two benefit-cost criteria (benefit-cost ratio and net present value), results indicate that significant benefits can be gained from controlling this pest in the state. Applied agricultural research. Spring 1990. v. 5 (2). p. 77-81. maps. Includes references. (NAL Call No.: DNAL S539.5.A77).

0324

Economic benefits of selected granular insecticides for control of lesser cornstalk borer in nonirrigated peanut.
PNTSB. Gilreath, M.E. Funderburk, J.E.; Gorbet, D.W.; Zimet, D.J.; Lynch, R.E.; Herzog, D.C. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1989. v. 16 (2). p. 82-87. Includes references. (NAL Call No.: DNAL SB351.P3P39).

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Effect of irrigation and parathion granule applications on various peanut insect pests.
Tappan, W.B. Gorbet, D.W. Clemson, S.C. : South Carolina Entomological Society. Journal of agricultural entomology. Jan 1986. v. 3 (1). p. 68-76. Includes references. (NAL Call No.: DNAL SB599.J69).

0326

Effects of below-ground predator-weed interactions on damage to peanut by southern corn rootworm (Coleoptera: Chrysomelidae).
EVETEX. Brust, G.E. Lanham, Md. : Entomological Society of America. The below-ground effects of weeds (Amaranthus retroflexus L., Chenopodium album L., Ambrosia artemisiifolia L., Digitaria sanguinalis L., Setaria viridis L., Panicum dichotomiflorum Michx.) and increased soil moisture on damage to peanut pods by southern corn rootworm, Diabrotica undecimpunctata howardi Barber, was investigated in a 2-yr field and greenhouse study. Field experiments demonstrated that weedy areas had less pod damage overall and higher predator numbers than nonweedy areas. However, increased soil moisture, which increased southern corn rootworm oviposition and egg and larval survival, confounded the results. Greenhouse studies showed that three broadleaf species and three grass species were not as good food sources as peanuts for southern corn rootworm larvae. Although the presence of weeds growing with peanuts did not lower larval survival, weeds did significantly (P less than or equal to 0.05) slow larval developmental rate. In greenhouse studies, damage to peanut pods was approximately 66% in peanut-only (control) treatments, 55% in peanut + weed treatments, 32% in peanut predator treatments, and 9% in peanut + weed + predator treatments. The interaction of predators and weeds in lowering the amount of damage caused by southern corn rootworm was significant (P less than or equal to 0.05). Field and greenhouse experiments demonstrated that at least two factors were operating to reduce pest damage in this below-ground, multispecies plant association. Predators and the structural complexity of the weed-crop root association may be working synergistically to reduce southern corn rootworm damage to peanuts. Environmental entomology. Dec 1990. v. 19 (6). p. 1837-1844. Includes references. (NAL Call No.: DNAL QL461.E532).

0327

Effects of fluctuating diel temperatures on longevity and oviposition rate of adult female lesser cornstalk borers (Lepidoptera: Pyralidae).
EVETEX. Mack, T.P. Backman, C.B. College Park, Md. : Entomological Society of America. Environmental entomology. June 1986. v. 15 (3). p. 715-718. Includes references. (NAL Call No.: DNAL QL461.E532).

0328

Effects of lesser cornstalk borer (Lepidoptera: Pyralidae) feeding at selected plant growth stages on peanut growth and yield.
JEENAI. Mack, T.P. Backman, C.B.; Drane, J.W. College Park, Md. : Entomological Society of America. A greenhouse study was conducted to quantify the relationship of peanut (Arachis hypogaea L. var Florunner) plant damage to plant phenology and lesser cornstalk borer, Elasmopalpus lignosellus (Zeller), larval density Five plant growth stages, five lesser cornstalk borer (LCB) larval densities, and nine replicates were used in the study. Overall survival of larvae to adulthood was 46.90 +/- 0.02% (-/x +/- SEM). Less than 3.60% of pods were damaged when less than or equal to 4 larvae were used to infest a plant, whereas greater than or equal to 7.08% were damaged when or 8 larvae were used. A greater percentage of plants infested at stage greater than or equal to R5 had damaged seeds than those infested at less than or equal to R3. Undamaged pod and seed, and root dry weight declined linearly with an increase in LCB density. An economic injury level of 3.63 to 5.44 larvae per row-meter was calculated based on 5.82% loss in undamaged pod dry weight per LCB. Journal of economic entomology. Oct 1988. v. 81 (5). p. 1478-1484. Includes references. (NAL Call No.: DNAL 421 J822).

0329

Effects of peanut plant fractions on lesser cornstalk borer (Lepidoptera: Pyralidae) larval feeding.
EVETEX. Huang, X.P. Mack, T.P. Lanham, Md. : Entomological Society of America. Larval feeding bioassays were done with the lesser cornstalk borer (Elasmopalpus lignosellus (Zeller)) using agar plugs containing samples from eight peanut (Arachis hypogaea L. cv. Florunner) plant parts to determine their phagostimulative effects. Agar plugs containing residues from roots, pegs, lower stems, lower leaves, higher stems, higher leaves, young pods, or old pods were fed upon the most by larvae. Chemically pure cellulose was not an adequate substitute for these residues. The methanol and water extracts had some phagostimulative properties. When samples of different peanut plant parts were tested together, significantly more lesser cornstalk borer larvae fed on those obtained from pods and leaves. Environmental entomology. Oct 1989. v. 18 (5). p. 763-767. Includes references. (NAL Call No.: DNAL QL461.E532).

0330

Effects of two planting dates and three tillage systems on the abundance of lesser cornstalk borer (Lepidoptera: Pyralidae), other selected insects, and yield in peanut fields.
JEENAI. Mack, T.P. Backman, C.B. Lanham, Md. : Entomological Society of America. The effect of planting date and tillage system on the abundance of several insects in 'Florunner' peanuts (Arachis hypogaea L.) was examined in a 2-yr replicated field experiment. Two planting dates (late May and mid-June) and three tillage systems (conventional, reduced, and burned stubble) were evaluated. The abundance of the lesser cornstalk borer, Elasmopalpus lignosellus (Zeller), elaterids, carabids, and labidurids was monitored weekly with pitfall traps. Counts of lesser cornstalk borer, labidurid, carabid, and elaterid varied with year. Counts of lesser cornstalk borers and carabids were significantly greater in 1986 than in 1987, whereas counts of elaterids and labidurids were greater in 1987. Approximately 1.9 times more lesser cornstalk borers were captured in traps from late-planted peanuts in both years. Labidurid abundance was unaffected by planting date. Carabids were more abundant in late-planted peanuts in 1987, but planting date did not affect abundance in 1986 or when data from both years were combined. Tillage system did not affect the abundance of any of the insects monitored in either year. These experiments indicate that planting early should effectively decrease lesser cornstalk borer abundance in conventionally tilled and reduced-tillage peanuts. Journal of economic entomology. June 1990. v. 83 (3). p. 1034-1041. Includes references. (NAL Call No.: DNAL 421 J822).

0331

Efficacy of chlorpyrifos in soil in Florunner' peanut fields to lesser cornstalk borer (Lepidoptera: Pyralidae).
JEENAI. Mack, T.P. Funderburk, J.E.; Lynch, R.E.; Braxton, E.G.; Backman, C.B. Lanham, Md. : Entomological Society of America. Survival of lesser cornstalk borer, Elasmopalpus lignosellus (Zeller), larvae in soil from conventionally tilled and planted Florunner' peanut, Arachis hypogaea L., fields treated with chlorpyrifos in Alabama and Florida was evaluated by testing first instars every 2 wk after application. Treatments were an untreated control and granular chlorpyrifos applied at planting, planting plus pegging, pegging, or flowering. Larval survival in soil from treated plots varied with time of application, location, and year. Application of chlorpyrifos at planting was effective in 1986 and 1987 (42 and 102 d in Alabama; 102 and 72 d in Florida). The fewer days of effectiveness in Alabama in 1986 was probably caused by accelerated chlorpyrifos degradation from hot, dry weather during the growing season. Effectiveness of the application at flowering time was at least as great as effectiveness of the application at pegging. This study indicates that application of chlorpyrifos at flowering or pegging would be more effective for lesser cornstalk borer management than an application at planting, and that these applications would provide adequate control of the lesser cornstalk borer during pod-fill. Journal of economic entomology. Aug 1989. v. 82 (4). p. 1224-1229. Includes references. (NAL Call No.: DNAL 421 J822).

0332

Environmental effects on production of primary and secondary conidia, infection, and pathogenesis of Neozygites floridana, a pathogen of the twospotted spider mite, Tetranychus urticae.
JIVPA. Smitley, D.R. Brooks, W.M.; Kennedy, G.G. Orlando, Fla. : Academic Press. Journal of invertebrate pathology. May 1986. v. 47 (3). p. 325-332. Includes references. (NAL Call No.: DNAL 421 J826).

0333

Food consumption by Heliothis zea (Lepidoptera: Noctuidae) larvae intoxicated with a beta-exotoxin of Bacillus thuringiensis.
JEENAI. Herbert, D.A. Harper, J.D. College Park, Md. : Entomological Society of America. Journal of economic entomology. June 1987. v. 80 (3). p. 593-596. Includes references. (NAL Call No.: DNAL 421 J822).

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Insect control: how to check and when to treat.
French, J.C. Weeks, J.R.; Mack, T.P. Auburn, Ala. : The Service. Circular ANR - Alabama Cooperative Extension Service, Auburn University. In series analytic: Peanut Pest Management.~ Includes statistical data. Dec 1988. (360). p. 8-11. ill. (NAL Call No.: DNAL S544.3.A2C47).

0335

Interactive effects of tobacco thrips control and herbicides on competition between large crabgrass (Digitaria sanguinalis) and peanuts (Arachis hypogaea).
WEESA6. Murdock, E.C. Alden, J.A.; Toler, J.E. Champaign, Ill. : Weed Science Society of America. Weed science. Nov 1986. v. 34 (6). p. 896-900. Includes references. (NAL Call No.: DNAL 79.8 W41).

0336

Larval description of Rivellia pallida (Diptera: Platystomatidae), a consumer of the nitrogen-fixing root nodules of hog-peanut, Amphicarpa bracteata (Leguminosae).
PESWA. Bibro, C.M. Foote, B.A. Washington, D.C. : The Society. Proceedings of the Entomological Society of Washington. July 1986. v. 88 (3). p. 578-584. ill. Includes references. (NAL Call No.: DNAL 420 W27).

0337

Lesser cornstalk borer damage to peanuts.
HARAA. Mack, T.P. Weeks, J.R.; Backman, C.B. Auburn, Ala. : The Station. Highlights of agricultural research - Alabama Agricultural Experiment Station. Winter 1986. v. 33 (4). p. 9. ill. (NAL Call No.: DNAL 100 AL1H).

0338

Long-lasting granular insecticide the most effective against lesser cornstalk borers.
HARAA. Mack, T.P. Miller, M.G. Auburn University, Ala. : The Station. Highlights of agricultural research - Alabama Agricultural Experiment Station. Winter 1990. v. 37 (4). p. 5. (NAL Call No.: DNAL 100 AL1H).

0339

Management of arthropods on peanuts in Southeast Asia.
Campbell, W.V. Experiment, Ga. : University of Georgia, Georgia Experiment Station. Annual report of the Peanut Collaborative Research Support Program (CRSP). 1986. p. 235-258. (NAL Call No.: DNAL SB351.P3P432).

0340

Peanut disease control.
Bailey, J.E. Raleigh, N.C. : The Service. AG - North Carolina Agricultural Extension Service, North Carolina State University. In series analytic: 1990 Peanuts. Jan 1990 (331,rev.). p. 67-79. (NAL Call No.: DNAL S544.3.N6N62).

0341

Peanut insect control.
Womack, H. Todd, J.W. Athens, Ga. : The Service. Circular - Cooperative Extension Service, University of Georgia. Mar 1990. (543,rev.). 2 p. (NAL Call No.: DNAL 275.29 G29C).

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Peanut insect control.
Womack, H. Athens, Ga. : The Service. Circular - Cooperative Extension Service, University of Georgia. Feb 1989. (543,rev.). 2 p. ill. (NAL Call No.: DNAL 275.29 G29C).

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Peanut insect control.
Womack, H. Athens, Ga. : The Service. Circular - Cooperative Extension Service, University of Georgia. Jan 1987. (543,rev.). 2 p. ill. (NAL Call No.: DNAL 275.29 G29C).

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0345

Peanut insect control in Oklahoma--1990-1991.
Mulder, P. Berberet, R.C.; Pinkston, K. Stillwater, Okla. : The Service. OSU extension facts - Cooperative Extension Service, Oklahoma State University. In subseries: Pest Management Series. Mar 1990. (7174,rev.). 6 p. (NAL Call No.: DNAL S544.3.O5O5).

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Peanut insect control recommendations.
Smith, J.C. Blacksburg, Va. : Extension Division, Virginia Polytechnic Institute and State University. Publication - Virginia Cooperative Extension Service. In the series analytic: 1988-89 pest management guide for peanuts /coordinated by J.M. Luna. Jan 1988.

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0347

Peanut insect management.
Brandenburg, R.L.. Raleigh, N.C. : The Service. AG - North Carolina Agricultural Extension Service, North Carolina State University. In series analytic: 1990 Peanuts. Jan 1990 (331,rev.). p. 32-41. (NAL Call No.: DNAL S544.3.N6N62).

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Brandenburg, R.L. Raleigh, N.C. : The Service. AG - North Carolina Agricultural Extension Service, North Carolina State University. In series analytic: 1989 Peanuts / prepared by Sullivan, G.A., Linker, H.M. ... et al. . Jan 1989. (331,rev.). p. 32-41. (NAL Call No.: DNAL S544.3.N6N62).

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Peanut integrated pest management.
Linker, M. Raleigh, N.C. : The Service. AG - North Carolina Agricultural Extension Service, North Carolina State University. In series analytic: 1990 Peanuts. Jan 1990 (331,rev.). p. 26-31. (NAL Call No.: DNAL S544.3.N6N62).

0350

Physical properties of three oils and oil-insecticide formulations used in agriculture.
TAAEA. Cochran, D.L. Threadgill, E.D.; Law, S.E. St. Joseph, Mich. : The Society. Transactions of the ASAE - American Society of Agricultural Engineers. Sept/Oct 1987. v. 30 (5). p. 1338-1342. Includes references. (NAL Call No.: DNAL 290.9 AM32T).

0351

Relationship between tillage and nematicide, fungicide, and insecticide treatments on pests and yield of peanuts double-cropped with wheat.
PLDIDE. Minton, N.A. Csinos, A.S.; Morgan, I.W. St. Paul, Minn. : American Phytopathological Society. Plant disease. Dec 1990. v. 74 (12). p. 1025-1029. Includes references. (NAL Call No.: DNAL 1.9 P69P).

0352

Relationship of sampling time to tobacco thrips (Thysanoptera: Thripidae) numbers in peanut foliage buds and flowers.
JEENAI. Tappan, W.B. College Park, Md. : Entomological Society of America. Journal of economic entomology. Oct 1986. v. 79 (5). p. 1359-1363. Includes references. (NAL Call No.: DNAL 421 J822).

0353

Tobacco thrips (Thysanoptera: Thripidae) number after peanut foliage bud and flower excision.
JEENAI. Tappan, W.B. College Park, Md. : Entomological Society of America. Journal of economic entomology. Aug 1986. v. 79 (4). p. 1082-1084. Includes references. (NAL Call No.: DNAL 421 J822).

0354

Use of light traps to monitor flight activity of the burrowing bug, Pangaeus bilineatus (Hemiptera: Cydnidae), and associated field infestations in peanuts.
JEENAI. Highland, H.B. Lummus, P.F. College Park, Md. : Entomological Society of America. Journal of economic entomology. Apr 1986. v. 79 (2). p. 523-526. Includes references. (NAL Call No.: DNAL 421 J822).

0355

Water relations of several arthropod predators in the peanut agroecosystem.
EVETEX. Mack, T.P. Appel, A.G.; Backman, C.B.; Trichilo, P.J. Lanham, Md. : Entomological Society of America. Water content and percentage of total body water (TBW) lost as a function of time was determined for four common predators in the peanut agroecosystem that may feed on the lesser cornstalk borer, Elasmopalpus lignosellus (Zeller) (Insecta: Lepidoptera: Pyralidae). TBW loss by Geocoris punctipes (Say) (Hemiptera: Lygaeidae), Reduviolus roseipennis Reuter (Hemiptera: Nabidae), and Oxyopes salticus Hentz (Aranae: Oxyopidae) increased linearly with desiccation time, but for workers of Solenopsis invicta Buren (Hymenoptera: Formicidae), it increased as a curvilinear function of desiccation time. Mortality of insects in a 24-h period was 69.4 and 80.6% for nymphal and adult G. punctipes, 16.7 and 58.1% for nymphal and adult R. roseipennis. 100% for S. invicta workers, and 14.7 and 13.0% for nymphal and adult O. salticus. These high moralities suggest that the lesser cornstalk borer is better able to survive xeric conditions than some of its common predators. Environmental entomology. Oct 1988. v. 17 (5). p. 778-781. Includes references. (NAL Call No.: DNAL QL461.E532).

0356

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0364

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JDNEB. Venter, C. Lake Alfred, Fla. : Society of Nematologists. Journal of nematology. Jan 1991. v. 23 (1). p. 12-19. Includes references. (NAL Call No.: DNAL QL391.N4J62).

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Cercospora leaf spot management decisions: uses of a correlation between rainfall and disease severity to evaluate the Virginia leaf spot advisory.
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Chemical control of sclerotinia blight of peanut.
Jackson, K. Melouk, H.A.; Damicone, J. Stillwater, Okla. : The Service. OSU current report - Oklahoma State University, Cooperative Extension Service. Jan 1991. (7657). 4 p. (NAL Call No.: DNAL S451.O5O8).

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Color mutants of Aspergillus flavus and Aspergillus parsiticus in a study of preharvest invasion of peanuts.
APMBA. Cole, R.J. Hill, R.A.; Blankenship, P.D.; Sanders, T.H. Washington, D.C. : American Society for Microbiology. Applied and environmental microbiology. Nov 1986. v. 52 (5). p. 1128-1131. ill. Includes references. (NAL Call No.: DNAL 448.3 AP5).

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Comparison of Lorsban and Tilt with Terraclor for control of southern blight on peanut.
Grichar, W.J. Boswell, T.E. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. Includes statistical data. Aug 1987. (4534). 8 p. Includes references. (NAL Call No.: DNAL 100 T31P).

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Comparison of Ridomil PC with Terraclor, gypsum, and Ridomil for the control of peanut pod rot.
Grichar, W.J. Boswell, T.E. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. Includes statistical data. Jan 1990. (4689). 12 p. (NAL Call No.: DNAL 100 T31P).

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Comparison of soil insecticides alone and in combination with PCNB for suppression of southern stem rot of peanut.
PNTSB. Hagan, A.K. Weeks, J.R.; McGuire, J.A. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. Jan/June 1988. v. 15 (1). p. 35-38. Includes references. (NAL Call No.: DNAL SB351.P3P39).

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Components of partial resistance in peanut genotypes to isolates of Cercosporidium personatum from the United States and Thailand.
PHYTAJ. Shew, B.B. Sommartya, T.; Beute, M.K. St. Paul, Minn. : American Phytopathological Society. Leaves were detached from 14 peanut (Arachis hypogaea) genotypes that previously were characterized as having low, moderate, or high partial resistance to Cerosporidium personatum. Detached leaf cultures were inoculated with isolates of C. personatum from diverse locations within Thailand and the United States. Lesion numbers, the percentages of lesions that sporulated 20 (%LS20) and 30 (%LS30) days after inoculation, lesion diameters, and conidial production per sporulating lesion were determined. Thai isolates of C. personatum generally caused more lesions than U.S. isolates on all genotypes. Differences among isolates for other disease components were small and varied between two trials. Stability of resistance to several disease components was evaluated with regression analysis, in which low mean disease ratings, nonsignificant deviations, and slopes near zero in the regression indicated stable resistance. Significant slopes, which indicate increasing disease with increasing isolate virulence, occurred in lesion numbers, %LS20, %LS30, and conidial production for some genotypes. Few significant deviations, which indicate significantly higher disease in specific isolate X genotype combinations, were found among moderately and highly resistant

genotypes. The three most resistant genotypes varied little in overall resistance but differed in stability of resistance. KUP24D-248W, a genotype selected in Thailand, had the most stable resistance to the isolates tested. Differences within isolates and between trials were nearly as great as differences among isolates from the diverse locations. Phytopathology. Feb 1989. v. 79 (2). p. 136-142. Includes references. (NAL Call No.: DNAL 464.8 P56).

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Control of cylindrocladium black rot of peanut with soil fumigants having methyl isothiocyanate as the active ingredient.
PLDIDE. Phipps, P.M. St. Paul, Minn. : American Phytopathological Society. Plant disease. June 1990. v. 74 (6). p. 438-441. ill. Includes references. (NAL Call No.: DNAL 1.9 P69P).

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Control of diseases caused by Rhizoctonia solani and Sclerotium rolfsii in soybeans, beans, peanuts, and cucumbers with flutolanil.
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0399

Control of peanut foliar diseases, 1984.
FNETD. Jaks, A.J. Smith, D.H.; Davis, R.E. s.l. : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1986. v. 41. p. 109. (NAL Call No.: DNAL 464.9 AM31R).

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Control of peanut soilborne diseases may afford yield breakthrough.
HARAA. Backman, P.A. Auburn, Ala. : The Station. Highlights of agricultural research - Alabama Agricultural Experiment Station. Winter 1987. v. 34 (4). p. 12. ill. (NAL Call No.: DNAL 100 AL1H).

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Control of Pythium pod rot, 1984.
FNETD. Grichar, W.J. Boswell, T.E. s.l. : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1986. v. 41. p. 114. (NAL Call No.: DNAL 464.9 AM31R).

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Control of Sclerotinia blight of peanut: sensitivity and resistance of Sclerotinia minor to vinclozolin, iprodione, dicloran, and PCNB.
PLDRA. Brenneman, T.B. Phipps, P.M.; Stipes, R.J. St. Paul, Minn. : American Phytopathological Society. Plant disease. Jan 1987. v. 71 (1). p. 87-90. Includes references. (NAL Call No.: DNAL 1.9 P69P).

0403

Control of southern blight, 1984.
FNETD. Grichar, W.J. Boswell, T.E. s.l. : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1986. v. 41. p. 115. (NAL Call No.: DNAL 464.9 AM31R).

0404

Control of southern stem rot and Rhizoctonia limb rot of peanut with flutolanil.
PNTSB. Csinos, A.S. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1987. v. 14 (2). p. 55-58. Includes references. (NAL Call No.: DNAL SB351.P3P39).

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Depression of aflatoxin production by flavonoid-type compounds from peanut shells.
PHYTAJ. DeLucca, A.J. II. Palmgren, M.S.; Daigle, D.J. St. Paul, Minn. : American Phytopathological Society. Phytopathology. Nov 1987. v. 77 (11). p. 1560-1563. Includes references. (NAL Call No.: DNAL 464.8 P56).

0406

Detection and measurement of plant disease gradients in peanut with a multispectral radiometer.
PHYTA. Nutter, F.W. Jr. St. Paul, Minn. : American Phytopathological Society. Point and line sources of Cercosporidium personatum were established in peanut field plot experiments in Plains, GA, in 1986. Disease gradients were quantified by measuring percent leaflet defoliation with respect to distance from the sources and by measuring percent reflectance of 800-nm wavelength radiation off the crop canopy with a hand-held, multi-spectral radiometer. There was a linear relationship between percent reflectance values and percent defoliation estimates for both point and line source experiments. There was also a linear relationship between percent reflectance values and yield (kg/ ha) along the late leaf spot gradient in the line source experiment (R2 = 98.2%). Disease severity gradients of peanut rust foci were also quantified and compared to percent reflectance values by using linear regression analysis. Percent reflectance

values, when used as the independent variable, explained 94.6-96.5% of the variation in peanut rust disease severity along rust gradients. Reflectance of sunlight from peanut canopies at 800 nm provided a rapid and objective measurement of disease intensity and the amount of green leaf area contributing to pod yield. Recording percent reflectance offers a means to quantify the benefits obtained from disease control tactics aimed at protecting and maintaining healthy green leaf area from the effects of plant pathogens. Phytopathology. Sept 1989. v. 79 (9). p. 958-963. Includes references. (NAL Call No.: DNAL 464.8 P56).

0407

Detection and partial characterization of new polypeptides in peanut cotyledons associated with early stages of infection by Aspergillus spp.
PHYTA. Szerszen, J.B. Pettit, R.E. St. Paul, Minn. : American Phytopathological Society. Polypeptide profiles of peanut cotyledonary tissue from viable kernels of 14 cultivars grown under normal irrigation and five genotypes grown under drought stress were determined before and after invasion by Aspergillus flavus and A. parasiticus. inoculated kernels and isolated cotyledons were removed from moist chambers every 6 hr within 48 hr after inoculation. Polypeptide patterns were determined by microprocessor-controlled sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE) and two-dimensional electrophoresis and visualized after staining with silver. Uninoculated cotyledonary tissue contained 35 comigrating groups of SDS-dissociated proteins (13.5-218.7 kDa), and mapping showed the presence of 257 components within pI range 3.00- 8.70. Four new polypeptides (16.4, 18.1, 23.0, and 30.6 kDa; pI 7.95, 8.00, 7.90, and 7.55, respectively) were present in viable intact kernels and live, isolated cotyledons 18-24 hr following inoculation. Two additional polypeptides (19.9 and 22.0 kDa; pI 8.15 and 8.00, respectively) were detected after 24-30 hr of incubation in cotyledons from plants grown under normal irrigation. Drought stress inhibited the synthesis of these polypeptides except in kernels of cultivar TX 798736, which contained five of them, including one specific for this cultivar (37.2 kDa; pI 6.50). Mapping of polypeptides showed their enhanced synthesis with time and variations in amounts among cultivars tested. Phytopathology. Dec 1990. v. 80 (12). p. 1432-1438. ill. Includes references. (NAL Call No.: DNAL 464.8 P56).

0408

Disease progression and leaf area dynamics of four peanut genotypes differing in resistance to late leafspot.
CRPSAY. Pixley, K.V. Boote, K.J.; Shokes, F.M.; Gorbet, D.W. Madison, Wis. : Crop Science Society of America. Leafspot epidemics caused by Cercospora arachidicola Hori (CA) and Cercosporidium personatum (Berk. & Curt.) Deighton (CP) occur every year on peanut (Arachis hypogaea L.) in the southeastern USA and can reduce yields even in fungicide-treated fields. In this study, leafspot epidemic rates and leaf area dynamics were compared for the widely grown but susceptible cultivar Florunner and three genotypes (Southern Runner, F81206, and MA72x94-12) having partial resistance to CP. Field studies were conducted at Marianna, FL in 1983 and at Gainesville, FL in 1985. Percent necrotic area in three leaf canopy layers (estimated using modified Horsfall-Barratt diagrams), defoliation of the main stem (determined by counting missing leaflets), and leaf area index (LAI) were recorded at 7 to 10-d intervals. In plots receiving no fungicide, rates of disease progress were one-half to two-thirds as great and areas under disease progress curves were 10 to 30% as large for the resistant genotypes as for Florunner. All genotypes lost similar amounts of LAI in response to disease, but defoliation was more complete for Florunner than for the other genotypes. Maintenance of higher LAI by these resistant genotypes was associated with sustained leaf production until maturity. The combination of lower epidemic rates with continued leaf growth (compensating for diseased leaves) appears to reduce the adverse effects of leafspot on assimilation and yield capabilityof these resistant lines. Nevertheless, leaf replacement is probably not the optimum mechanism for minimizing effects of leafspot diseases because leaf growth requires energy that could otherwise be available for pod growth. Crop science. July/Aug 1990. v. 30 (4). p. 789-796. Includes references. (NAL Call No.: DNAL 64.8 C883).

0409

Disease reduced by management of Southern Runner peanuts.
HARAA. Jacobi, J.C. Backman, P.A.; Wells, L.W. Auburn University, Ala. : The Station. Highlights of agricultural research - Alabama Agricultural Experiment Station. Winter 1989. v. 36 (4). p. 13. ill. (NAL Call No.: DNAL 100 AL1H).

0410

Early stages of infection of peanut by Sclerotinia minor.
PHYTA. Melouk, H.A. Aboshosha, S.S.; Akem, C.N. St. Paul, Minn. : American Phytopathological Society. Phytopathology. Includes abstract. May 1988. v. 78 (5). p. 629. (NAL Call No.: DNAL 464.8 P56).

0411

Effect of calcium sulfate on pod rot of peanut.
PLDIDE. Filonow, A.B. Melouk, H.A.; Martin, M.; Sherwood, J. St. Paul, Minn. : American Phytopathological Society. Plant disease. July 1988. v. 72 (7). p. 589-593. Includes references. (NAL Call No.: DNAL 1.9 P69P).

0412

Effect of early leafspot invasion on growth analysis of Spanish peanuts.
PAPAD. Ketring, D.L. Albuquerque : The Association. Proceedings - American Peanut Research and Education Association. Includes abstract. Oct 1986. v. 18. p. 39. (NAL Call No.: DNAL SB320.A4).

0413

Effect of environmental factors on Sclerotinia minor and Sclerotinia blight of peanut.
PHYTAJ. Dow, R.L. Porter, D.M.; Powell, N.L. St. Paul, Minn. : American Phytopathological Society. Phytopathology. June 1988. v. 78 (6). p. 672-676. Includes references. (NAL Call No.: DNAL 464.8 P56).

0414

Effect of fungicides on rate of disease progress of early leaf spot of peanut.
PAPAD. Jackson, K.E. Melouk, H.A. Albuquerque : The Association. Proceedings - American Peanut Research and Education Association. Includes abstract. Oct 1986. v. 18. p. 51. (NAL Call No.: DNAL SB320.A4).

0415

Effect of host genotype on incubation period, receptivity, lesion diameter, and leaf area damage of didymella arachidicola on peanut.
PNTSB. Subrahmanyam, P. Smith, D.H. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1987. v. 14 (2). p. 90-94. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0416

Effect of metalaxyl plus PCNB or metalaxyl plus tolclofos-methyl on peanut pod rot and soil populations of Pythium spp. and Rhizoctonia solani.
PNTSB. Filonow, A.B. Jackson, K.E. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. Jan/June 1989. v. 16 (1). p. 25-32. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0417

Effect of metam sodium, peanut genotype and inoculum density on incidence of Cylindrocladium black rot.
PNTSB. Cline, W.O. Beute, M.K. Raleigh : American Peanut Research and Education Society. Peanut science. Jan/June 1986. v. 13 (1). p. 41-45. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0418

Effect of peanut mottle virus on reaction of peanut cv. Tammut 74 to Cercospora arachidicola.
PNTSB. Melouk, H.A. Sherwood, J.L. Raleigh : American Peanut Research and Education Society. Peanut science. Jan/June 1986. v. 13 (1). p. 31-33. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0419

Effect of peanut seed treatment on emergence, 1984.
FNETD. Jaks, A.J. Smith, D.H.; Davis, R.E. s.l. : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1986. v. 41. p. 134. (NAL Call No.: DNAL 464.9 AM31R).

0420

The effect of three digging dates on oil quality, yield, and grade of five peanut genotypes grown without leafspot control.
PNTSB. Knauft, D.A. Norden, A.J.; Gorbet, D.W. Raleigh : American Peanut Research and Education Society. Peanut science. July/Dec 1986. v. 13 (2). p. 82-86. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0421

Effects of chemigated and conventionally sprayed tebuconazole and tractor traffic on peanut diseases and pod yields.
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Effects of fungicides, cultivars, irrigation, and environment on Rhizoctonia limb rot of peanut.
PLDIDE. Barnes, J.S. Csinos, A.S.; Hook, J.E. St. Paul, Minn. : American Phytopathological Society. Plant disease. Sept 1990. v. 74 (9).

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Effects of genotype and date of harvest on infection of peanut seed by Aspergillus flavus and subsequent contamination with aflatoxin.
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0425

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PNTSB. Dow, R.L. Powell, N.L.; Porter, D.M. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. Jan/June 1988. v. 15 (1). p. 1-5. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0426

Effects of row spacings and seeding rates of peanut on nematodes and incidence of southern stem rot.
NMTPA. Minton, N.A. Csinos, A.S. Auburn, Ala. : Organization of Tropical American Nematologists. Nematropica. Dec 1986. v. 16 (2). p. 167-176. Includes references. (NAL Call No.: DNAL SB998.N4N4).

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PHYTAJ. Shew, B.B. Beute, M.K.; Wynne, J.C. St. Paul, Minn. : American Phytopathological Society. Phytopathology. Apr 1988. v. 78 (4). p. 493-498. Includes references. (NAL Call No.: DNAL 464.8 P56).

0429

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EXMYD. Roberson, R.W. Fuller, M.S. Duluth, Minn. : Academic Press. Experimental mycology. June 1990. v. 14 (2). p. 124-135. ill. Includes references. (NAL Call No.: DNAL QK600.E9).

0430

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PLDIDE. Brenneman, T.B. Sumner, D.R. St. Paul, Minn. : American Phytopathological Society. Plant disease. Apr 1990. v. 74 (4). p. 277-279. Includes references. (NAL Call No.: DNAL 1.9 P69P).

0431

Efficacy of fungicides for control of peanut foliar diseases, 1984.
FNETD. Jaks, A.J. Subrahmanyam, P.; Smith, D.H.; Davis, R.E. s.l. : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1986. v. 41. p. 109-110. (NAL Call No.: DNAL 464.9 AM31R).

0432

Establishment of Dicyma pulvinata in Cercosporidium personatum leaf spot of peanuts: effect of spray formulation, inoculation time, and hours of leaf wetness.
PHYTAJ. Mitchell, J.K. Taber, R.A.; Pettit, R.E. St. Paul, Minn. : American Phytopathological Society. Phytopathology. Nov 1986. v. 76 (11). p. 1168-1171. Includes 10 references. (NAL Call No.: DNAL 464.8 P56).

0433

Evaluating chemicals to control soilborne diseases of peanut.
Phipps, P.M. Porter, D.M. St. Paul, Minn. : APS Press, c1986. Methods for evaluating pesticides for control of plant pathogens / edited by Kenneth D. Hickey ; prepared jointly by the American Phytopathological Society and the Society of Nematologists. p. 217-220. Includes references. (NAL Call No.: DNAL SB960.M47 1986).

0434

Evaluating foliar fungicides applied through irrigation systems for control of peanut diseases.
Backman, P.A. St. Paul, Minn. : APS Press, c1986. Methods for evaluating pesticides for control of plant pathogens / edited by Kenneth D. Hickey ; prepared jointly by the American Phytopathological Society and the Society of Nematologists. p. 221-223. Includes references. (NAL Call No.: DNAL SB960.M47 1986).

0435

Evaluation of copper fungicides alone and in combination with Bravo 500 for control of leafspot of peanut, 1985.
FNETD. Littrell, R.H. Heath, M. s.l. : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1986. v. 41. p. 114. (NAL Call No.: DNAL 464.9 AM31R).

0436

Evaluation of experimental chlorothalonil formulations for control of late leafspot of peanut, 1985.
FNETD. Shokes, F.M. Gorbet, D.W. s.l. : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1986. v. 41. p. 112-113. (NAL Call No.: DNAL 464.9 AM31R).

0437

Evaluation of fungicide spray programs for control of Sclerotinia blight and Cercospora leafspot of peanut, 1985.
FNETD. Phipps, P.M. s.l. : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1986. v. 41. p. 116. (NAL Call No.: DNAL 464.9 AM31R).

0438

Evaluation of fungicide treatments for control of leafspot and influence on pod yield, 1985.
FNETD. Littrell, R.H. Heath, M. s.l. : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1986. v. 41. p. 113. (NAL Call No.: DNAL 464.9 AM31R).

0439

Evaluation of fungicides and spray programs for control of Cercospora leafspot of peanut in Virginia, 1985.
FNETD. Phipps, P.M. Steele, J.L. s.l. : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1986. v. 41. p. 110-111. (NAL Call No.: DNAL 464.9 AM31R).

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Evaluation of fungicides for control of Sclerotinia blight of peanut, 1985.
FNETD. Phipps, P.H. s.l. : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1986. v. 41. p. 115-116. (NAL Call No.: DNAL 464.9 AM31R).

0441

Evaluation of fungicides for the control of peanut diseases, 1985.
FNETD. Crawford, M.A. Backman, P.A. s.l. : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1986. v. 41. p. 108. (NAL Call No.: DNAL 464.9 AM31R).

0442

Evaluation of Trichoderma harzianum (TH-88) for biological control of Sclerotinia blight of peanut, 1988.
Phipps, P.M. Porter, D.M. St. Paul, Minn. : APS Press. Biological and cultural tests for control of plant diseases. 1989. v. 4. p. 40. (NAL Call No.: DNAL SB732.6.B562).

0443

Factors affecting the biological control of Cercosporidium leaf spot of peanuts by Dicyma pulvinata.
PHYTAJ. Mitchell, J.K. Taber, R.A. St. Paul, Minn. : American Phytopathological Society. Phytopathology. Oct 1986. v. 76 (10). p. 990-994. Includes references. (NAL Call No.: DNAL 464.8 P56).

0444

Field evaluation of fungicides for management of peanut foliar diseases.
Shokes, F.M. Smith, D.H.; Littrell, R.H. St. Paul, Minn. : APS Press, c1986. Methods for evaluating pesticides for control of plant pathogens / edited by Kenneth D. Hickey ; prepared jointly by the American Phytopathological Society and the Society of Nematologists. p. 212-216. Includes references. (NAL Call No.: DNAL SB960.M47 1986).

0445

Field persistence and efficacy of five bacterial preparations for control of peanut leaf spot.
PLDRA. Knudsen, G.R. Spurr, H.W. Jr. St. Paul, Minn. : American Phytopathological Society. Plant disease. May 1987. v. 71 (5). p. 442-445. Includes references. (NAL Call No.: DNAL 1.9 P69P).

0446

Groundwork for decision: developing recommendations for plant disease control.
PLDIDE. Horne, C.W. St. Paul, Minn. : American Phytopathological Society. Plant disease. Dec 1989. v. 73 (12). p. 943-948. ill. Includes references. (NAL Call No.: DNAL 1.9 P69P).

0447

Growth and partitioning characteristics of four peanut genotypes differing in resistance to late leafspot.
CRPSAY. Pixley, K.V. Boote, K.J.; Shokes, F.M.; Gorbet, D.W. Madison, Wis. : Crop Science Society of America. Genetic resistance in peanut (Arachis hypogaea L.) to foliar disease caused by Cercospora arachidicola Hori (CA) and Cercosporidium personatum (Berk. & Curt.) Deighton (CP) has usually been associated with low yields and late maturity. Some recently developed genotypes have partial resistance to CP and good yield potential. This study was conducted to understand growth and partitioning characteristics that contribute to yield potential of three leafspot-resistant genotypes relative to the widely grown but susceptible cultivar Florunner. Crop growth, vegetative growth, reproductive growth, partitioning intensity of Florunner, 'Southern Runner', F81206, and MA72x94-12 were measured in field studies during two seasons in the presence or absence of fungicidal control of leafspots. In fungicide treated plots, the genotypes had similar crop growth rates, but differed in assimilate partitioning to pod growth (92, 80, 77, and 53% for Florunner, Southern Runner, F81206, and MA72x94-12, respectively). In treated plots, high partitioning of assimilate to pods and early onset of pod fill enabled Florunner to achieve high yield in 127 d. In untreated plots, this high intensity of partitioning to pods limited Florunner's leaf production during pod fill and precluded replacement of diseased leaves. By contrast, Southern Runner, F81206, and MA72x94-12 compensated partially for leafspot-induced defoliation; later onset of pod fill (6 to 16 d) and lower partitioning to pods allowed greater leaf area growth during pod fill. A combination of leafspot resistance, lower partitioning to pods (allowing leaf growth), and slightly longer pod fill resulted in satisfactory yields from Southern Runner and F81206 without fungicidal control of leafspot. Crop science. July/Aug 1990. v. 30 (4). p. 796-804. Includes references. (NAL Call No.: DNAL 64.8 C883).

0448

Gypsum and lime effects on the germination quality and fungal infection of peanut seed.
AAREEZ. Bell, D.K. Csinos, A.S.; Walker, M.E. New York, N.Y. : Springer. Applied agricultural research. 1988. v. 3 (3). p. 153-159. Includes references. (NAL Call No.: DNAL S539.5.A77).

0449

History of benzimidazole use and resistance.
Smith, C.M. St. Paul, Minn. : ARS Press, American Phytopathological Society, 1988. Fungicide resistance in North America / Charles J. Delp, editor. p. 22-24. (NAL Call No.: DNAL SB951.F88).

0450

The incidence and survival of Sclerotinia minor in peanut seed.
PNTSB. Porter, D.M. Taber, R.A.; Smith, D.H. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1989. v. 16 (2). p. 113-115. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0451

Increased susceptibility and reduced phytoalexin accumulation in drought-stressed peanut kernels challenged with Aspergillus flavus.
APMBA. Wotton, H.R. Strange, R.N. Washington, D.C. : American Society for Microbiology. Applied and environmental microbiology. Feb 1987. v. 53 (2). p. 270-273. Includes references. (NAL Call No.: DNAL 448.3 AP5).

0452

Integrating onion in crop rotation to control Sclerotium rolfsii.
PLDRA. Zeidan, O. Elad, Y.; Hadar, Y.; Chet, I. St. Paul, Minn. : American Phytopathological Society. Plant disease. May 1986. v. 70 (5). p. 426-428. Includes 16 references. (NAL Call No.: DNAL 1.9 P69P).

0453

Management of drought stress to improve field screening of peanuts for resistance to Aspergillus flavus.
PHYTAJ. Mehan, V.K. Nageswara Rao, R.C.; McDonald, D.; Williams, J.H. St. Paul, Minn. : American Phytopathological Society. Phytopathology. June 1988. v. 78 (6). p. 659-663. Includes references. (NAL Call No.: DNAL 464.8 P56).

0454

Management of Pythium pod rot on peanut with fungicides and gypsum.
Grichar, W.J. Boswell, T.E. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. Oct 1986. (4459). 7 p. Includes references. (NAL Call No.: DNAL 100 T31P).

0455

Modification of the peanut leaf spot advisory for use on genotypes with partial resistance.
PHYTAJ. Matyac, C.A. Bailey, J.E. St. Paul, Minn. : American Phytopathological Society. Phytopathology. June 1988. v. 78 (6). p. 640-644. Includes references. (NAL Call No.: DNAL 464.8 P56).

0456

Mycotoxin management in peanut by prevention of contamination and monitoring.
Pettit, R.E. Experiment, Ga. : University of Georgia, Georgia Experiment Station. Annual report of the Peanut Collaborative Research Support Program (CRSP). Literature review. 1986. p. 88-134. maps. Includes references. (NAL Call No.: DNAL SB351.P3P432).

0457

Peanut seed treatment trial, 1984.
FNETD. Jaks, A.J. Smith, D.H.; Davis, R.E. s.l. : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1986. v. 41. p. 134-135. (NAL Call No.: DNAL 464.9 AM31R).

0458

Performance characteristics of dicloran, iprodione, and vinclozolin for control of sclerotinia blight of peanut.
PLDRA. Brenneman, T.B. Phipps, P.M.; Stipes, R.J. St. Paul, Minn. : American Phytopathological Society. Plant disease. June 1987. v. 71 (6). p. 546-548. Includes references. (NAL Call No.: DNAL 1.9 P69P).

0459

Phytotoxic substances produced by some isolates of Cercospora arachidicola are not cercosporin.
PHYTAJ. Fore, S.A. Daub, M.E.; Beute, M.K. St. Paul, Minn. : American Phytopathological Society. Phytopathology. Aug 1988. v. 78 (8). p. 1082-1086. ill. Includes references. (NAL Call No.: DNAL 464.8 P56).

0460

Plant breeding for leafspot resistance in wide and narrow intrarow spacings.
PNTSB. Knauft, D.A. Gorbet, D.W. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1989. v. 16 (2). p. 119-122. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0461

Preventing aflatoxin in farmer stock peanuts.
Thompson, S.S. Athens, Ga. : The Service. Leaflet - Cooperative Extension Service, University of Georgia. July 1989. (406). 6 p. ill. (NAL Call No.: DNAL 275.29 G29L).

0462

Qualitative and quantitative changes in the protein composition of peanut (Arachis hypogaea L.) seed following infestation with Aspergillus spp. differing in aflatoxin production.
JAFCAU. Basha, S.M. Pancholy, S.K. Washington, D.C. : American Chemical Society. Journal of agricultural and food chemistry. July/Aug 1986. v. 34 (4). p. 638-643. Includes references. (NAL Call No.: DNAL 381 J8223).

0463

A rapid method for evaluating genotype resistance, fungicide activity, and isolate pathogenicity of Sclerotinia minor in peanut.
PNTSB. Brenneman, T.B. Phipps, P.M.; Stipes, R.J. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1988. v. 15 (2). p. 104-107. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0464

Reaction of peanut genotypes under drought stress to Aspergillus flavus and A. parasiticus.
PNTSB. Azaizeh, H.A. Pettit, R.E.; Smith, O.D.; Taber, R.A. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1989. v. 16 (2). p. 109-113. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0465

Reducing Aspergillus species infection of peanut seed using resistant genotypes.
JEVQAA. Mixon, A.C. Madison, Wis. : American Society of Agronomy. Journal of environmental quality. Apr/June 1986. v. 15 (2). p. 101-103. Includes 9 references. (NAL Call No.: DNAL QH540.J6).

0466

Relationship between aflatoxin production and soil temperature for peanuts under drought stress.
TAAEA. Thai, C.N. Blankenship, P.D.; Cole, R.J.; Sanders, T.H.; Dorner, J.W. St. Joseph, Mich. : American Society of Agricultural Engineers. Transactions of the ASAE. Jan/Feb 1990. v. 33 (1). p. 324-329. Includes references. (NAL Call No.: DNAL 290.9 AM32T).

0467

Relationship between tillage and nematicide, fungicide, and insecticide treatments on pests and yield of peanuts double-cropped with wheat.
PLDIDE. Minton, N.A. Csinos, A.S.; Morgan, I.W. St. Paul, Minn. : American Phytopathological Society. Plant disease. Dec 1990. v. 74 (12). p. 1025-1029. Includes references. (NAL Call No.: DNAL 1.9 P69P).

0468

Response of peanut genotypes with differential levels of leafspot resistance to fungicide treatments.
CRPSAY. Gorbet, D.W. Knauft, D.A.; Shokes, F.M. Madison, Wis. : Crop Science Society of America. Leafspot diseases, caused by Cercospora arachidicola S. Hori (early leafspot) and Cercosporidium personatum (Berk. and Curt.) Deighton (late leafspot), are worldwide production problems on peanut (Arachis hypogaea L.). The extensive use of fungicides to control these diseases on susceptible cultivars is costly to growers. Developing leafspot resistant cultivars is a primary objective in many breeding programs. 'Southern Runner', which was released in 1986, is the only commercially available peanut cultivar in the USA with significant leafspot resistance. Field studies were conducted in 1981 to 1983 and 1985 to 1987 on peanut breeding lines with varying levels of leafspot resistance to evaluate their disease reaction and agronomic response to three leafspot fungicide programs and to assess their potential as cultivars for use with fewer fungicide sprays. The cultivars Florunner (susceptible) and Southern Runner (moderately resistant) and three breeding lines were used in all 6 yr, with five additional lines unique to the 1981 to 1983 experiments and four additional lines unique to the 1985 to 1987 tests. All experiments were randomized-complete block, split-plot designs with genotypes as subplots and three fungicide spray programs as main Plot treatments: (i) unsprayed, (ii) chlorothatonil (tetrachloroisophthalonitrile), 500 g L-1 on 20-d, and (iii) 14-d spray schedules. Leafspot disease ratings were on a 1 to 10 scale, with 1 = no disease and 10 = dead plants, assessed prior to digging. Significant (P less than or equal to 0.01) genotypic differences for pod yield, percent total sound mature kernels, seed weights, and disease ratings were noted. Significant (P less than or equal to 0.01) differences were obtained for years, fungicide treatments, and most two- and three-way interactions. Negative correlations were obtained between pod yields and disease ratings for unsprayed (r = -0.64) and 20-d schedules (r = -0.46), but not for the 14-d treatment. No differences. Crop science. May/June 1990. v. 30 (3). p. 529-533. Includes references. (NAL Call No.: DNAL 64.8 C883).

0469

Results of 1989 plant disease control field studies.
Jackson, K.E. Williams, E.; Pratt, P.W.; Melouk, H.A.; Filonow, A.B.; Fagbenle, H.H.; Sholar, J.R. Stillwater, Okla. : The Station. Research report P - Oklahoma Agricultural Experiment Station. Apr 1990. (913). 148 p. (NAL Call No.: DNAL 100 OK4M).

0470

The role of partial resistance in the management of Cercospora leaf spot of peanut in North Carolina.
PHYTA. Johnson, C.S. Beute, M.K. St. Paul, Minn. : American Phytopathological Society. Phytopathology. Apr 1986. v. 76 (4). p. 468-472. Includes 26 references. (NAL Call No.: DNAL 464.8 P56).

0471

Sclerotia production and viability on peanut genotypes planted in Sclerotinia minor-infested plots.
PHYTA. Akem, C.N. Melouk, H.A.; Smith, O.D. St. Paul, Minn. : American Phytopathological Society. Phytopathology. Paper presented at the 1988 Annual Meeting of the American Phytopathological Society, Southern Division, March 6-9, 1988, McAllen, TX.~ Includes abstract. May 1988. v. 78 (5). p. 625. (NAL Call No.: DNAL 464.8 P56).

0472

Sclerotinia blight of peanut: relationship between in vitro resistance and field efficacy of dicarboximide fungicides.
PHYTAJ. Brenneman, T.B. Phipps, P.M.; Stipes, R.J. St. Paul, Minn. : American Phytopathological Society. Phytopathology. July 1987. v. 77 (7). p. 1028-1032. Includes references. (NAL Call No.: DNAL 464.8 P56).

0473

Severity, distribution, and losses from taproot cankers caused by Rhizoctonia solani in peanuts.
PNTSB. Turner, J.T. Backman, P.A. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1988. v. 15

(2). p. 73-75. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0474

Soil insecticides or Terraclor for white mold suppression on peanuts?.
HARAA. Hagan, A.K. Weeks, J.R.; McGuire, J.A. Auburn, Ala. : The Station. Highlights of agricultural research - Alabama Agricultural Experiment Station. Summer 1988. v. 35 (2). p. 6. ill. (NAL Call No.: DNAL 100 AL1H).

0475

Some effects of mineral nutrition on aflatoxin contamination of corn and peanuts.
Wilson, D.M. Walker, M.E.; Gascho, G.J. St. Paul, Minn. : APS Press, c1989. Soilborne plant pathogens : management of diseases with macro- and microelements / edited by Arthur W. Engelhard. p. 137-151. Includes references. (NAL Call No.: DNAL SB732.87.S66).

0476

Southern blight disease control demonstrations.
Jackson, K. Damicone, J. Stillwater, Okla. : The Service. OSU current report - Oklahoma State University, Cooperative Extension Service. Jan 1991. (7656). 4 p. (NAL Call No.: DNAL S451.0508).

0477

Southern Runner, a new leafspot-resistant peanut variety.
Gorbert, D.W. Norden, A.J.; Shokes, F.M.; Knauft, D.A. Gainesville : The Institute. Circular S - Florida Agricultural Experiment Stations, Institute of Food and Agricultural Sciences, University of Florida. Sept 1986. (324). 13 p. ill. Includes references. (NAL Call No.: DNAL 100 F66CI).

0478

Southern stem rot suppression on peanut with the insecticide chlorpyrifos.
PNTSB. Hagan, A.K. Weeks, J.R.; Reed, R.B. Raleigh : American Peanut Research and Education Society. Peanut science. Jan/June 1986. v. 13 (1). p. 36-37. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0479

Synthetic analogues of phytoalexins. Synthesis and antifungal activity of potential free-radical scavengers.
JAFCAU. Arnoldi, A. Carughi, M.; Farina, G.; Merlini, L.; Parrino, M.G. Washington, D.C. : American Chemical Society. Journal of agricultural and food chemistry. Mar/Apr 1989. 37 (2). p. 508-512. Includes references. (NAL Call No.: DNAL 381 J8223).

0480

Temperature effects on germination and comparative morphology of conidia for Thai and USA isolates of Cercosporidium personatum.
PNTSB. Sommartya, T. Beute, M.K. Raleigh : American Peanut Research and Education Society. Peanut science. July/Dec 1986. v. 13 (2). p. 67-70. ill. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0481

TX/MM/S--mycotoxin management in peanut by prevention of contamination and monitoring.
Pettit, R.E. Griffin, Ga. : University of Georgia, Georgia Experiment Station. Annual report of thee Peanut Collaborative Research Support Program (CRSP). 1986? . p. 58-76. (NAL Call No.: DNAL SB351.P3P432).

0482

Use of a simulation model to explore fungicide strategies for control of Cercospora leafspot of peanut.
PNTSB. Knudsen, G.R. Johnson, C.S.; Spurr, H.W. Jr. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. Jan/June 1988. v. 15 (1). p. 39-43. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0483

Use of spatial patterns and density of inoculum of Cylindrocladium crotalariae during field evaluation of partially resistant peanut genotypes.
PHYTA. Culbreath, A.K. Beute, M.K.; Wynne, J.C. St. Paul, Minn. : American Phytopathological Society. Three new peanut genotypes NC Ac 18414, NC Ac 18416, and NC Ac 18417; susceptible cultivar, NC 8C; Florigiant; moderately resistant cultivar, NC 8C; and highly resistant genotypes, NC Ac 18016 and NC 3033, were evaluated in 1986 and 1987 for incidence of Cylindrocladium black rot in field experiments designed to take into account inoculum density and spatial patterns of propagules of Cylindrocladium crotalariae as well as genotype effects on disease incidence. Crop rotation and observation of previous black rot incidence were used to divide fields into quadrants with different average inoculum

levels of C. crotalariae. Soil samples from each plot were assayed before planting each year to estimate inoculum density and to determine spatial patterns of inoculum. Estimates of inoculum density were used as an experimental design factor such that genotypes were assigned to replicated plots representing similar ranges of inoculum density. Final disease incidence, area under disease progress curve, and indices relating performance of each genotype to that of Florigiant were used for comparison of the genotypes. Incidence of black rot in NC Ac 18417 was not significantly higher than that of NC 8C in 1986, but was in 1987. NC Ac 18414 performed only slightly better than Florigiant. NC Ac 18417 was chosen for release as moderately resistant cultivar NC 10C. Significant correlations between initial inoculum level and final disease incidence were detected in 1986 for all genotypes except the highly resistant line NC 3033. In 1986, NC Ac 18414 and NC Ac 18417 appeared to be more sensitive to increases in inoculum density than the other resistant genotypes, although performances of NC 8C and NC Ac 18417 were comparable at low levels of inoculum. Correlation of disease incidence with initial inoculum was not detected in 1987. Phytopathology. Dec 1990. v. 80 (12). p. 1395-1400. Includes references. (NAL Call No.: DNAL 464.8 P56).

0484

Utility of cultivar resistance and row treatments with soil fumigants in control of Cylindrocladium black rot (CBR) of peanut, 1985.
FNETD. Phipps, P.M. s.l. : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1986. v. 41. p. 107-108. (NAL Call No.: DNAL 464.9 AM31R).

0485

Utilization of a multispectral radiometer to evaluate fungicide efficacy to control late leaf spot in peanut.
PHYTA. Nutter, F.W. Jr. Littrell, R.H.; Brenneman, T.B. St. Paul, Minn. : American Phytopathological Society. Reflectance measurements were compared to visual assessment methods in 1985, 1986, and 1987 in Plains, GA, to measure fungicide efficacy for the control of late leaf spot caused by Cercosporidium personatum. Percent reflectance of 800-nm wavelength radiation was recorded from peanut canopies treated with different test fungicides by using a hand-held multispectral radiometer. In all but one case, percent reflectance increased in a linear fashion as visual disease assessments decreased. Analysis of variance and mean separation tests for visual versus remotely sensed assessments revealed that percent reflectance-based measurements had lower coefficients of variation than visually based assessment schemes. Higher coefficients of determination (R2) and lower standard errors of Y (pod yield) were obtained when percent reflectance values were regressed against Y compared to the R2 values and standard errors obtained from regression equations employing visual assessments as the independent variable. Reflectance-based measurements were also faster and easier to obtain than visually based assessment methods. Percent reflectance values explained more of the variation in visual leaf spot assessments using a 1-10 rating scale compared to visual estimates of percent disease severity. Rank correlations for the ranking of fungicide treatments (based on the different assessment methods) with the rankings for pod yield revealed that reflectance-based assessments had a higher rank correlation with pod yield rankings than did visual assessment methods. Measurements of reflected radiation at 800 nm from peanut canopies can provide rapid, objective, and precise measurements to evaluate fungicide efficacy to control late leaf spot in peanuts. Phytopathology. Jan 1990. v. 80 (1). p. 102-108. Includes references. (NAL Call No.: DNAL 464.8 P56).

0486

Variability in growth characteristics and leafspot resistance parameters of peanut lines.
CRPSAY. Knauft, D.A. Gorbet, D.W. Madison, Wis. : Crop Science Society of America. Peanut (Arachis hypogaea L.) genotypes have been developed with varying levels of early and late leafspot Cercospora arachidicola Hori and Cercosporidium personatum (Berk. and Curt.) Deighton resistance. An understanding of the changes that occur during the growing season among resistance parameters and in vegetative and pod development will be beneficial to crop scientists. In this study, 16 genotypes were grown 30 cm apart within 90-cm rows and evaluated under disease pressure at 10-d intervals during a 2-yr period for disease rating, percentage leaf area necrotic, vegetative (V) stage, total vegetative weight, total pod weight, and partitioning coefficient. In both years, disease ratings differed among genotypes beginning 58 d after planting and were more effective for distinguishing among genotypes throughout the growing season than percentage leaf necrotic area. Fourteen of the 16 genotypes had similar V stages throughout the growing season. Vegetative weights of disease-susceptible cultivars did not exceed 165 g plant-1, while many resistant lines exceeded 250 g plant-1. Susceptible-cultivar partitioning coefficients generally exceeded 80%, while resistant lines ranged from 20 to over 80%. Pod initiation in resistant lines lagged behind that of susceptible cultivars by 10 to 30 d, even if resistant lines had high partitioning coefficients. Use of disease rating combined with selection of high partitioning lines with early initiation of pod production may contribute to development of desirable cultivars. Crop science. Jan/Feb 1990. v. 30 (1). p. 169-175. Includes references. (NAL Call No.: DNAL 64.8 C883).

0487

White mold on peanuts.
Hagan, A. Auburn, Ala. : The Service. Circular ANR - Cooperative Extension Service, Auburn University. Aug 1987. (368). 2 p. ill. (NAL Call No.: DNAL S544.3.A2C47).

0488

Yield and market quality of seven peanut genotypes as affected by leafspot disease and harvest date.
PNTSB. Knauft, D.A. Gorbet, D.W.; Norden, A.J. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. Jan/June 1988. v. 15 (1). p. 9-13. Includes references. (NAL Call No.: DNAL SB351.P3P39).

PLANT DISEASES - BACTERIAL

0489

Chemical control of foliar diseases of peanuts, peppers, and onions as affected by spray nozzle types, nozzle orientations, spray intervals, and adjuvants.
PLDRA. Kucharek, T.A. Cullen, R.E.; Stall, R.E.; Llewellyn, B. St. Paul, Minn. : American Phytopathological Society. Plant disease. June 1986. v. 70 (6). p. 583-586. Includes 15 references. (NAL Call No.: DNAL 1.9 P69P).

0490

Bean yellow mosaic virus isolate that infects peanut (Arachis hypogaea).
PLDRA. Bays, D.C. Demski, J.W. St. Paul, Minn. : American Phytopathological Society. Plant disease. July 1986. v. 70 (7). p. 667-669. ill. Includes 14 references. (NAL Call No.: DNAL 1.9 P69P).

0491

Detection of peanut stripe virus in peanut seed by an indirect enzyme-linked immunosorbent assay using a monoclonal antibody.
PLDIDE. Culver, J.N. Sherwood, J.L. St. Paul, Minn. : American Phytopathological Society. Plant disease. Aug 1988. v. 72 (8). p. 676-679. Includes references. (NAL Call No.: DNAL 1.9 P69P).

0492

Effect of peanut mottle virus on reaction of peanut cv. Tammut 74 to Cercospora arachidicola.
PNTSB. Melouk, H.A. Sherwood, J.L. Raleigh : American Peanut Research and Education Society. Peanut science. Jan/June 1986. v. 13 (1). p. 31-33. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0493

The effect of peanut stripe virus infection on peanut composition.
PNTSB. Ross, L.F. Lynch, R.E.; Conkerton, E.J.; Demski, J.W.; Daigle, D.J.; McCombs, C. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. Jan/June 1989. v. 16 (1). p. 43-45. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0494

Effects of infection by peanut mottle virus on nodule function.
PHYTA. Wongkaew, S. Peterson, J.F. St. Paul, Minn. : American Phytopathological Society. Phytopathology. Mar 1986. v. 76 (3). p. 294-300. ill. Includes 36 references. (NAL Call No.: DNAL 464.8 P56).

0495

Influence of peanut stripe virus on growth, yield, and quality of Florunner peanut.
PNTSB. Lynch, R.E. Demski, J.W.; Branch, W.D.; Holbrook, C.C.; Morgan, L.W. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1988. v. 15 (2). p. 47-52. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0496

Inheritance of resistance to peanut mottle virus in Phaseolus vulgaris.
JOHEA. Provvidenti, R. Chirco, E.M. Washington, D.C. : American Genetic Association. The Journal of heredity. Nov/Dec 1987. v. 78 (6). p. 402-403. Includes references. (NAL Call No.: DNAL 442.8 AM3).

0497

Production of monoclonal antibodies to peanut mottle virus and their use in enzyme-linked immunosorbent assay and dot-immunobinding assay.
PHYTAJ. Sherwood, J.L. Sanborn, M.R.; Keyser, G.C. St. Paul, Minn. : American Phytopathological Society. Phytopathology. Aug 1987. v. 77 (8). p. 1158-1161. ill. Includes references. (NAL Call No.: DNAL 464.8 P56).

0498

Resistance to peanut stripe virus in Arachis germ plasm.
PLDIDE. Culver, J.N. Sherwood, J.L.; Melouk, H.A. St. Paul, Minn. : American Phytopathological Society. Plant disease. Dec 1987. v. 71 (12). p. 1080-1082. Includes references. (NAL Call No.: DNAL 1.9 P69P).

0499

Transmission of peanut mottle and peanut stripe viruses by Aphis craccivora and Myzus persicae.
PLDIDE. Screenivasulu, P. Demski, J.W. St. Paul, Minn. : American Phytopathological Society. Plant disease. Aug 1988. v. 72 (8). p. 722-723. Includes references. (NAL Call No.: DNAL 1.9 P69P).

0500

Ultrastructural comparison of peanut infected with stripe and blotch variants of peanut stripe virus.
PHYTAJ. Rechcigl, N.A. Tolin, S.A.; Grayson, R.L.; Hooper, G.R. St. Paul, Minn. : American Phytopathological Society. Two symptom variants of peanut stripe virus, stripe (PStV-S) and blotch (PStV-B), were compared ultrastructurally in the seventh quadrifoliolate leaf of systemically infected peanut (Arachis hypogaea 'Florigiant') sampled at five stages of expansion. The variants differed in the location of virus particles in cells and the severity of cytopathic effects, but not in particle length or type and location of cytoplasmic inclusions formed. Both variants of the virus are placed in potyvirus subdivision III. With either variant, cytoplasm in very young leaves was highly vesiculated, and pinwheel inclusions were located at the periphery of the cell, apparently attached to the plasmalemma near plasmodesmata. Scroll

inclusions appeared in abundance in both PStV-B and -S infected cells at a later leaf expansion stage when symptoms were evident but indistinguishable as blotch or stripe. In more mature leaves expressing blotch or stripe symptoms, pinwheel and scroll inclusions were obvious in the cytoplasm and were often near mitochondria. Short, laminated aggregates were found infrequently. Virus particles were observed free in the cytoplasm, in linear arrays among membrane surfaces, and in monolayers sandwiched between membranes that extended as sheets through vacuoles. With PStV-B alone, particles were also observed in aggregates in the cytoplasm and along the arms of pinwheel inclusions. Membrane and organelle degradation was evident in cells infected with either variant, but was generally more severe with PStV-B. In fully developed leaves expressing distinctive symptom patterns, cells from light green areas contained numerous cytoplasmic inclusions and virus particles, whereas cells from dark green areas contained no observable cytoplasmic inclusions. Fewer virus particles were detected in extracts from dark green than light green areas and from PStV-S than from PStV-B tissue. Phytopathology. Feb 1989. v. 79 (2). p. 156-161. ill. Includes references. (NAL Call No.: DNAL 464.8 P56).

0501

Effect of calcium sulfate on pod rot of peanut.
PLDIDE. Filonow, A.B. Melouk, H.A.; Martin, M.; Sherwood, J. St. Paul, Minn. : American Phytopathological Society. Plant disease. July 1988. v. 72 (7). p. 589-593. Includes references. (NAL Call No.: DNAL 1.9 P69P).

0502

Interactions of iron nutrition and symbiotic nitrogen fixation in peanuts.
JPNUDS. Terry, R.E. Hartzook, A.; Jolley, V.D.; Brown, J.C. New York, N.Y. : Marcel Dekker. Journal of plant nutrition. Paper presented at the "Fourth International Symposium on Iron Nutrition and Interactions in Plants," July 6-9, 1987, University of New Mexico, Albuquerque. June/Nov 1988. v. 11 (6/11). p. 811-820. Includes references. (NAL Call No.: DNAL QK867.J67).

0503

Involvement of bacterial siderophores in the remedy of lime-induced chlorosis in peanut.
SSSJD4. Jurkevitch, E. Hadar, Y.; Chen, Y. Madison, Wis. : The Society. A Pseudomonas putida strain isolated from peanut (Arachis hypogaea L.) roots excreted yellow-green fluorescent siderophores (pigments) when grown under Fe-deficient conditions. The pigments were purified in their Fe complex form. Chromatography yielded eight peaks, the first two representing >90% of the total. Physico-chemical characteristics of the materials exhibiting these two peaks were similar in to those of pseudobactin-pyoveridine class of sidero phores. In two growth chamber experiments peanut plants grown on a highly calcareous soil were able to use the Fe from unpurified Fe-siderophore produced by P. putida cultures. When supplied with 11 mg Ke kg-1 soil as Fe-siderophore the chlorophyll concentration in the leaves was 75% of that of FeEDDHA (ethylenediamine di-o-hydroxyphenylacetic acid)-treated plants. Control plants that were not fertilized with Fe contained only 35% chlorophyll of that of FeEDDHA-treated plants. Nonferrated siderophores were ineffective in correcting Fe deficiency. Relative chlorophyll concentration in the leaves of the treatment supplemented with Fe-siderophore and bacterial cells was similar to that applications that did not contain bacterial cells. In a second experiment, 100% remedy of the deficiency was achieved when 19 mg Ke kg-1 soil as Fe-siderophores was applied in comparison to 1.2 mg Fe k-1 soil as FeEDDHA. The degree of remedy of chlorosis was independent on the frequency of application (two or four times a month). In these treatments total bacterial and fluorescent pseudomonad counts colony-forming units (cfu) g-1 dry roots) were significantly higher than in the unfertilized and FeEDDHA treatments. The level of DTPA (diethylenetriaminepentaacetic acid) extractable Fe at the end of the growth period in both experiments was significantly higher in Fe-siderophore amended soils than in FeEDDHA-treated soils. In a third experiment, the siderophore Ferrioxamine B (FOB) was used as a source of FE. Iron applications of 22.5 and. Soil Science Society of America journal. July/Aug 1988. v. 52 (4). p. 1032-1037. Includes references. (NAL Call No.: DNAL 56.9 SO3).

0504

Soil pH and manganese effects on manganese nutrition of peanut.
AGJOAT. Parker, M.B. Walker, M.E. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1986. v. 78 (4). p. 614-620. Includes references. (NAL Call No.: DNAL 4 AM34P).

0505

Absorption, translocation, and metabolism of foliar-applied imazaquin in soybeans (Glycine max), peanuts (Arachis hypogaea), and associated weeds.
WEESA6. Wilcut, J.W. Wehtje, G.R.; Patterson, M.G.; Cole, T.A. Champaign, Ill. : Weed Science Society of America. Weed science. Jan 1988. v. 36 (1). p. 5-8. Includes references. (NAL Call No.: DNAL 79.8 W41).

0506

Effect of chilling injury on windrowed peanuts.
PNTSB. Singleton, J.A. Pattee, H.E. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. Jan/June 1989. v. 16 (1). p. 51-54. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0507

Effect of pyridazinone herbicides on lipid metabolism in groundnut (Arachis hypogaea) leaves.
PCBPB. Rajasekharan, R. Sastry, P.S. Duluth, Minn. : Academic Press. Pesticide biochemistry and physiology. Oct 1987. v. 29 (2). p. 163-175. Includes references. (NAL Call No.: DNAL SB951.P49).

0508

Effects of different moisture levels and drying temperature on freeze damaged peanuts.
Singleton, J.A. Pattee, H.E. Washington, D.C. : The Society. Abstracts of papers - American Chemical Society. Abstract only.~ Includes abstract. 1986? . (192nd). p. 23. (NAL Call No.: DNAL 381 AM33PA).

0509

Influence of ammonia vapors on the dry seeds of soybean, corn, and peanut.
CRPSAY. Woodstock, L.W. Tsao, H. Madison, Wis. : Crop Science Society of America. Crop science. May/June 1986. v. 26 (3). p. 631-634. Includes references. (NAL Call No.: DNAL 64.8 C883).

0510

Interaction of bentazon and paraquat for peanut weed control.
SWSPBE. Evans, J.R. Turner, J.C.; Gourd, D.R.; McKemie, T.E. Raleigh, N.C. : The Society . Proceedings - Southern Weed Science Society. Paper presented at the "Meeting on Environmental Legislation and its Effects on Weed Science," Jan 18/20, 1988, Tulsa, Oklahoma. 1988. v. 41. p. 68. (NAL Call No.: DNAL 79.9 S08 (P)).

0511

Mechanisms of selective action of sodium sulfanilate on plants.
PCBPB. Zhang, L.H. Lin, K.H. Duluth, Minn. : Academic Press. Pesticide biochemistry and physiology. Sept 1988. v. 32 (1). p. 11-16. Includes references. (NAL Call No.: DNAL SB951.P49).

0512

Metolachlor effects on peanut growth and development.
PNTSB. Cardina, J. Swann, C.W. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1988. v. 15 (2). p. 57-60. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0513

Peanut responses to imposed-drought conditions in southern Ontario.
PNTSB. Roy, R.C. Stonehouse, D.P.; Francois, B.; Brown, D.M. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1988. v. 15 (2). p. 85-89. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0514

Relative tolerance of peanuts to alachlor and metolachlor.
PNTSB. Wehtje, G. Wilcut, J.W.; Hicks, T.V.; McGuire, J. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1988. v. 15 (2). p. 53-56. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0515

Wild poinsettia (Euphorbia heterophylla) control in peanut Arachis hypogaea).
WEESA6. Moore, J.D. Banks, P.A.; Pinnell-Alison, C.L. Champaign, Ill. : Weed Science Society of America. Wild poinsettia control in peanut was evaluated following various preplant-incorporated and postemergence herbicide applications. The addition of vernolate or alachlor to a preplant-incorporated treatment of benefin improved wild poinsettia control obtained with treatments of lactofen or paraquat plus alachlor applied at the time of peanut emergence. Lactofen applied postemergence following lactofen plus alachlor applied at the time of peanut emergence provided greater than or equal to 92% wild poinsettia control and peanut yields equivalent to the handweeded control. Treatments of paraquat plus alachlor applied at the time of peanut emergence followed by acifluorfen (applied once or twice) or paraquat followed by acifluorfen provided good (74 to 100%) wild poinsettia control for up to 12 weeks after planting and peanut yields

not different from the handweeded plots. Treatments that did not provide at least 92% wild poinsettia control when evaluated 5 weeks after planting resulted in significant peanut yield reduction compared to the handweeded control. Weed science. Nov 1990. v. 38 (6). p. 536-540. Includes references. (NAL Call No.: DNAL 79.8 W41).

PROTECTION OF PLANT PRODUCTS - GENERAL AND MISC.

0516

Effects of cleaning peanuts on insect damage, insect population growth and insecticide efficacy.
PNTSB. Arthur, F.H. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1989. v. 16 (2). p. 100-105. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0517

Influence of ammonia vapors on the dry seeds of soybean, corn, and peanut.
CRPSAY. Woodstock, L.W. Tsao, H. Madison, Wis. : Crop Science Society of America. Crop science. May/June 1986. v. 26 (3). p. 631-634. Includes references. (NAL Call No.: DNAL 64.8 C883).

0518

Augmentation of natural enemies for suppressing two major insect pests in stored farmers stock peanuts.
EVETEX. Keever, D.W. Mullen, M.A.; Press, J.W.; Arbogast, R.T. College Park, Md. : Entomological Society of America. Environmental entomology. June 1986. v. 15 (3). p. 767-770. Includes references. (NAL Call No.: DNAL QL461.E532).

0519

Chlorpyrifos-methyl as a protectant of farmers stock peanuts.
PNTSB. Arthur, F.H. Redlinger, L.M.; Simonaitis, R.A. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. Jan/June 1988. v. 15 (1). p. 15-18. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0520

Effects of cleaning peanuts on insect damage, insect population growth and insecticide efficacy.
PNTSB. Arthur, F.H. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1989. v. 16 (2). p. 100-105. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0521

Effects of Xylocoris flavipes (Hemiptera: Anthocoridae) releases on moth populations in experimental peanut storages.
JESCEP. Brower, J.H. Mullen, M.A. Tifton, Ga. : Georgia Entomological Society. Journal of entomological science. Apr 1990. v. 25 (2). p. 268-276. Includes references. (NAL Call No.: DNAL QL461.G4).

0522

Evaluation of esfenvalerate aerosol for control of stored product insect pests.
JESCEP. Arthur, F.H. Gillenwater, H.B. Tifton, Ga. : Georgia Entomological Society. Journal of entomological science. Apr 1990. v. 25 (2). p. 261-267. Includes references. (NAL Call No.: DNAL QL461.G4).

0523

Evaluation of trimethacarb as a protectant of stored peanuts.
JESCEP. Arthur, F. Tifton, Ga. : The Entomological Science Society. Journal of entomological science. July 1988. v. 23 (3). p. 264-268. Includes references. (NAL Call No.: DNAL QL461.G4).

0524

Evaluation of various pest-management characteristics.
Smith, G.S. Wetzstein, M.E.; Douce, G.K. Experiment, Ga. : The Association. Southern journal of agricultural economics - Southern Agricultural Economics Association. Dec 1987. v. 19 (2). p. 93-101. Includes references. (NAL Call No.: DNAL HD101.S6).

0525

Host locating ability of Trichogramma pretiosum Riley in inshell peanuts under laboratory conditions.
Brower, J.H. Clemson, S.C. : South Carolina Entomological Society. Journal of agricultural entomology. Oct 1990. v. 7 (4). p. 265-273. Includes references. (NAL Call No.: DNAL SB599.J69).

0526

Influence of loose-shell kernels and foreign material on insect damage in stored peanuts.
JEENAI. Arthur F.H. Redlinger, L.M. Lanham, Md. : Entomological Society of America. Loose-shell kernels (LSK) and foreign material (FM) were added to, or removed from, farmers stock peanuts to produce combinations of 0% LSK-FM, 5% LSK-10% FM, and 10% LSK-20% FM. Peanuts were treated with either 20 ppm pirimiphos-methyl or distilled water, placed in a metal shed, and infested with almond moths, Cadra cautella (Walker), Indianmeal moths, Plodia interpunctella (Hubner), red flour beetles, Tribolium castaneum (Herbst), merchant grain beetles, Oryzaephilus mercator (Faurel), and cigarette beetles, Lasioderma serricorne (F.). Samples were taken at 2, 4, 6, 9, and 12 mo after treatment. The number of insect-damaged kernels from cracked pods in untreated peanuts was ca. 20-30% higher in peanuts with 0% LSK-FM than in either of the other two LSK-FM combinations. The number of insect-damaged kernels was significantly lower in treated versus untreated peanuts, but percent damage was greater in peanuts with 0% LSK-FM. LSK from untreated peanuts had ca. 40-60% damage throughout the year. The number of live insects in untreated peanuts was greater in the 5% LSK-10% FM and 10% LSK-20% FM than in peanuts with 0% LSK-FM at 2 mo, but the number of insects in all three combinations declined until 12 mo. Journal of economic entomology. Feb 1988. v. 81 (1). p. 387-390. Includes references. (NAL Call No.: DNAL 421 J822).

0527

Insecticide resistance among populations of almond moth and indianmeal moth (Lepidoptera: Pyralidae) in stored peanuts.
JEENAI. Arthur, F. Zettler, J.L.; Halliday, W.R. College Park, Md. : Entomological Society of America. Field strains of almond moth, Cadra cautella (Walker), and Indianmeal moth, Plodia

interpunctella (Hubner), collected from peanut storage facilities were tested for resistance to dichlorvos, malathion, pirimiphos-methyl, chlorpyrifos-methyl, and synergized pyrethrins. Evidence of dichlorvos resistance was present in 1 of 6 almond moth strains and all 16 Indianmeal moth strains tested. Malathion resistance was severe. The almond moth strain most resistant to dichlorvos was also resistant to pirimiphos-methyl and chlorpyrifos-methyl. One other almond moth strain showed resistance to chlorpyrifos-methyl. There were no clear indications of resistance in Indianmeal moth strains to pirimiphos-methyl or chlorpyrifos-methyl. Resistance to synergized pyrethrins was not severe. None of 7 almond moth strains and 20 Indianmeal moth strains tested had >5.4-fold resistance to synergized pyrethrins. Journal of economic entomology. Oct 1988. v. 81 (5). p. 1283-1287. Includes references. (NAL Call No.: DNAL 421 J822).

0528

Interaction of Bracon hebetor (Hymenoptera: Braconidae) and Trichogramma pretiosum (Hymenoptera: Trichogrammatidae) in suppressing stored-product moth populations in small inshell peanut storages.
JEENAI. Brower, J.H. Press, J.W. Lanham, Md. : Entomological Society of America. Biological control tests in small inshell peanut storages indicated that the release of Bracon hebetor Say as a parasite of moth larvae and Trichogramma pretiosum Riley as a moth egg parasite have considerable potential for suppression of stored-product moth populations. Population suppression of the Indianmeal moth, Plodia interpunctella (Hubner), but not of the almond moth, Cadra cautella (Walker), was dependent on the species of parasite released. Population suppression of Indianmeal moth over the storage season was 37.3% of the cheek treatment for T. pretiosum alone, 66.1% for B. hebetor alone, but 84.3% when parasites were used in combination. For the much more abundant almond moth, reductions averaged 96.7, 97.3, and 98.0% for the three treatments, respectively. Larval feeding damage to peanut kernels was reduced to less than or equal to 1.12% by all three parasite treatments as compared with 15.84% in the untreated cheeks. Thus, B. hebetor and Trichogramma spp. may be useful as parts of an integrated pest control program for lepidopteran pests of stored inshell peanuts. Journal of economic entomology. June 1990. v. 83 (3). p. 1096-1101. Includes references. (NAL Call No.: DNAL 421 J822).

0529

Pest of stored peanuts: toxicity and persistence of chlorpyrifos-methyl.
JEENAI. Arthur, F. Lanham, Md. : Entomological Society of America. Virginia type peanuts were treated with 5, 10, 20, and 30 ppm chlorpyrifos-methyl and infested with fifth-instar almond moth, Cadra cautella (Walker), and Indianmeal moth, Plodia interpunctella (Hubner) at T1, T60, T120, and T180 (days after application). Rates of 5 and 10 ppm did not kill almond moth larvae at T1, and rates of 20 and 30 ppm were only marginally effective. Indianmeal moth larvae were more susceptible to chlorpyrifosmethyl than were almond moth larvae, but only the 20 and 30 ppm rates gave control at T1. Adult red flour beetles, Tribolium castaneum (Herbst), and merchant grain beetles, Oryzaephilus mercator (Fauvel), were also tested at T1, T60, T120, T180, and T270. Rates of 20 and 30 ppm were effective against both beetle species for at least 180 d after application. Journal of economic entomology. Apr 1989. v. 82 (2). p. 660-664. Includes references. (NAL Call No.: DNAL 421 J822).

0530

Population suppression of the almond moth and the indianmeal moth (Lepidoptera: Pyralidae) by release of Trichogramma pretiosum (Hymenpotera: Trichogrammatidae) into simulated peanut storages.
JEENAI. Brower, J.H. College Park, Md. : Entomological Society of America. Abstract: A biological control test in simulated peanut storages indicated that release of Trichogramma pretiosum Riley, a parasite of moth eggs, hasconsiderable potential for suppression of stored-product Lepidoptera. Suppression of the almond moth, Cada cautella (Walker), and the Indianmeal moth, Plodia interpunctella (Hubner), was dependent on numbers of T. pretiosum released and on frequency of releases. Percentage of total population suppression was as much as41.7% for the almond moth and 57.4% for the Indianmeal moth. Trichogramma spp. may be useful as part of an integrated peanut pest control program based on biological agents. Journal of economic entomology. June 1988. v. 81 (3). p. 944-948. Includes references. (NAL Call No.: DNAL 421 J822).

0531

Resistance status of red flour beetle (Coleoptera: Tenebrionidae) infesting stored peanuts in the southeastern United States.
JEENAI. Halliday, W.R. Arthur, F.H.; Zettler, J.L. Lanham, Md. : Entomological Society of America. Field strains of red flour beetle, Tribolium castaneum (Herbst), were collected from peanut storage warehouses and processing facilities throughout Georgia and Alabama. They were tested for resistance to three commonly used inse cticides and two insecticides whose registration is pending. Resistance was quantitated by a discriminating-dose procedure. Thirteen of 15 strains had nearly complete malathion resistance, having more than 90% survival when tested with technical material. Resistance to synergized pyrethrins was sporadic; only two populations showed evidence of resistance. There was evidence for resistance in half of the strains to dichlorvos. No indication of resistance to chlorpyrifos-methyl was found. One population

from Dothan, Ala., had survivors to the discriminating dose of pirimiphos-methyl, and it also had the highest proportion of survivors to dichlorvos. The Dothan strain showed no evidence of resistance to malathion. Results suggest that cross-resistance between dichlorvos and pirimiphos-methyl might be a potential problem. Journal of economic entomology. Feb 1988. v. 81 (1). p. 74-77. Includes references. (NAL Call No.: DNAL 421 J822).

0532

Vacuumized and unvacuumized polyethylene or polyester film bags: insect survival and resistance to insect penetration.
JEENAI. Highland, H.A. College Park, Md. : Entomological Society of America. Abstract: Insect survival and reproduction were determined in vacuumized (V) and unvacuumized (UV) polyethylene (PE) or polyester (PET) bags of shelled peanuts. Tribolium castaneum (Herbst) larvae and adults survived and reproduced in V-PE (200 millibars) bags, and larvae survived, developed to adults, and reproduced in UV-PE bags. AT 12 mo, live insects were found in UV-PE bags artificially infested with larvae and in V-PE bags initially infested with adults. Lasioderma serricorne (F.) and T. castaneum larvae matured to adults in V-PET and UV-PET bags, but no reproduction occurred when these bags were artificially infested with either adults or larvae. L. serricorne adults reproduced in UV-PE as well as in V-PE bags. C. cautellaand L. Serricorne penetrated the PE film. None of the three species tested reproded in PET bags or penetrated these bags. PET bags exposed to external infestations were not penetrated. All V-PE bags were penetrated, whereas only 10% of the UV-PE bags were penetrated. The remaining intact bags developed low internal pressures durning 12 mo of storage. Journal of economic entomology. June 1988. v. 81 (3). p. 955-958. Includes references. (NAL Call No.: DNAL 421 J822).

0533

Absorption, translocation, and metabolism of foliar-applied chlorimuron in soybeans (Glycine max), peanuts (Arachis hypogaea), and selected weeds.
WEESA6. Wilcut, J.W. Wehtje, G.R.; Patterson, M.G.; Cole, T.A.; Hicks, T.V. Champaign, Ill. : Weed Science Society of America. Tolerance of species to foliar applications of the ethyl ester of chlorimuron as determined in greenhouse studies with 21-day-old seedlings was: soybean = peanut greater than prickly sida greater than sicklepod greater than Florida beggarweed greater than common cocklebur. Absorption of foliar-applied 14C-chlorimuron 72 h after application was similar in soybean, peanut, sicklepod, common cocklebur, and prickly sida, but much less in Florida beggarweed. Slight symplasmic and apoplasmic translocation of the herbicide was evident in all species. Metabolism of chlorimuron 72 h after application was greatest in soybean and least in common cocklebur. Species tolerance to chlorimuron was directly correlated (r2 = 0.93) to the amount of unmetabolized chlorimuron (dpm/g dry wt) in the plant. Peanut exhibited increased tolerance to chlorimuron with age; this result was attributed to reduced absorption and translocation and more extensive metabolism of the absorbed herbicide by older plants. Weed science. Mar 1989. v. 37 (2). p. 175-180. Includes references. (NAL Call No.: DNAL 79.8 W41).

0534

Absorption, translocation, and metabolism of foliar-applied imazaquin in soybeans (Glycine max), peanuts (Arachis hypogaea), and associated weeds.
WEESA6. Wilcut, J.W. Wehtje, G.R.; Patterson, M.G.; Cole, T.A. Champaign, Ill. : Weed Science Society of America. Weed science. Jan 1988. v. 36 (1). p. 5-8. Includes references. (NAL Call No.: DNAL 79.8 W41).

0535

'Arbrook' rhizoma peanut, a perennial forage legume.
Prine, G.M. Dunavin, L.S.; Glennon, R.J.; Roush, R.D. Gainesville : The Institute. Circular S - Florida Agricultural Experiment Stations, Institute of Food and Agricultural Sciences, University of Florida. Oct 1986. (332). 16 p. ill. Includes references. (NAL Call No.: DNAL 100 F66CI).

0536

Behavior of imazethapyr in soybeans (Glycine max), peanuts (Arachis hypogaea, and selected weeds.
WEESA6. Cole, T.A. Wehtje, G.R.; Wilcut, J.W.; Hicks, T.V. Champaign, Ill. : Weed Science Society of America. Imazethapyr was applied at 0.14 kg ae/ha to soybean, peanut, sicklepod, Florida beggarweed, and redroot pigweed as either a soil, foliar, or soil plus foliar application. Soybean and peanut were the most tolerant species; redroot pigweed was the most sensitive, with sicklepod and Florida beggarweed being intermediate. Foliar or foliar plus soil applications were more effective in reducing sicklepod and Florida beggarweed fresh weights than soil application alone. Foliar absorption of 14C-imazethapyr 72 h after treatment was greater than 90% for soybean, peanut, sicklepod, and redroot pigweed, but only 77% in Florida beggarweed. For the species evaluated, the amount translocated from the treated leaf ranged from 5 to 16% after 72 h. Within this same time period, an average of 90% of the root-absorbed imazethapyr had been translocated to the shoot in all species except peanut. The half-life of imazethapyr was 6.6, 6.5, 14.4, 24.0, and 32.1 days in soybean, peanut, Florida beggarweed, sicklepod, and redroot pigweed, respectively. Tolerance was most closely associated with imazethapyr half-life within these species. Weed science. Sept 1989. v. 37 (5). p. 639-644. Includes references. (NAL Call No.: DNAL 79.8 W41).

0537

Benchmark herbicide: weed control in peanuts.
SWSPBE. Hulbert, J.C. Rogers, D.D.; Brooks, R.L. Raleigh, N.C. : The Society . Proceedings - Southern Weed Science Society. Paper presented at the "Meeting on Environmental Legislation and its Effects on Weed Science," Jan 18/20, 1988, Tulsa, Oklahoma. 1988. v. 41. p. 69. (NAL Call No.: DNAL 79.9 S08 (P)).

0538

Bermudagrass (Cynodon dactylon) control with postemergence herbicides in peanut (Arachis hypogaea).
WETEE9. Grichar, W.J. Boswell, T.E. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. Apr/June 1989. v. 3 (2). p. 267-271. Includes references. (NAL Call No.: DNAL SB610.W39).

0539

Bioherbicide for Florida beggarweed.
Cardina, J. Littrell, R.H.; Stowell, L.J. Washington, D.C.? : The Department. Abstract: The subject invention concerns a novel bioherbicide and itsuse to control a major weed found in many fields in the Southeastern United States where peanuts and soybeans are grown. Specifically, Colletotrichum truncatum (Schw.) Andrus & Moore, in an agricultural composition, can be used to effectively control Florida beggarweed without adversely affecting field crops, e.g., peanuts and soybeans. Further, C. truncatum (Schw.) Andrus & Moore in a mixture with Alternaria cassiae can be used to control Florida beggarweed and other undesired vegetation, such as sickleopod, showy crotalaria and coffe senna. United States

Department of Agriculture patents. Copies of USDA patents are available for a fee from the Commissioner of Patents and Trademarks, U.S. Patents and Trademarks Office, Washington, D.C. 20231. Feb 17, 1987. (4,643,756). 1 p. ill. Includes references. (NAL Call No.: DNAL aT223.V4A4).

0540

Bristly starbur (Acanthospermum hispidum) interference in peanuts (Arachis hypogaea).
WEESA6. Walker, R.H. Wells, L.W.; McGuire, J.A. Champaign, Ill. : Weed Science Society of America. The effects of bristly starbur interference with peanuts were studied from 1980 through 1983 on a Dothan sandy loam (Plinthic Paleudults). Peanut seed yields, which included kernels plus hulls, were reduced as bristly starbur densities increased from 2 to 64 plants/7.5 m of row. Full-season interference from 8, 16, 32, and 64 bristly starbur plants/7.5 m of row reduced plant seed yields 14, 26, 43, and 50%, respectively. The seed yield of peanuts maintained weed free for 6 weeks after crop emergence was reduced by no more than 3% compared to peanuts maintained weed free for the entire season. Weed interference for 2 weeks after crop emergence reduced seed yield by an average of 4% over the 3-yr period, based on prediction equations. Bristly starbur interference for 13 weeks after crop emergence reduced peanut forage dry weight yield by 54%. Similarly, peanut interference for 13 weeks after emergence reduced bristly starbur forage dry weight yield by 32%. Bristly starbur density in the forage dry weight studies averaged 35/7.5 m of row. These bristly starbur were confined to a 35-cm band over the drill. Peanut density averaged 72/7.5m of drill. Weed science. Mar 1989. v. 37 (2). p. 196-200. Includes references. (NAL Call No.: DNAL 79.8 W41).

0541

Can Gramoxone replace dinoseb?.
HARAA. Wehtje, G.W. Auburn, Ala. : The Station. Highlights of agricultural research - Alabama Agricultural Experiment Station. Summer 1988. v. 35 (2). p. 15. ill. (NAL Call No.: DNAL 100 AL1H).

0542

Chemical weed control in peanuts.
Brown, S.M. Athens, Ga. : The Service. Bulletin - Cooperative Extension Service, University of Georgia, College of Agriculture. Nov 1988. (825,rev.). 8 p. (NAL Call No.: DNAL 275.29 G29B).

0543

Chemical weed control in peanuts.
Swann, C.W. Athens, Ga. : The Service. Bulletin - Cooperative Extension Service, University of Georgia, College of Agriculture. Nov 1987. (825,rev.). 8 p. ill. (NAL Call No.: DNAL 275.29 G29B).

0544

Chemical weed control in peanuts.
Swann, C.W. Athens, Ga. : The Service. Bulletin - Cooperative Extension Service, University of Georgia, College of Agriculture. Nov 1986. (825, rev.). 10 p. (NAL Call No.: DNAL 275.29 G29B).

0545

Dinoseb and the Georgia media--a case study.
SWSPBE. Courson, J. Raleigh, N.C. : The Society . Proceedings - Southern Weed Science Society. Paper presented at the "Meeting on Environmental Legislation and its Effects on Weed Science," Jan 18/20, 1988, Tulsa, Oklahoma. 1988. v. 41. p. 321-325. (NAL Call No.: DNAL 79.9 S08 (P)).

0546

Dissipation of flurtamone in three Georgia soils.
WEESA6. Mueller, T.C. Banks, P.A.; Bridges, D.C. Champaign, Ill. : Weed Science Society of America. The dissipation of flurtamone was determined in three Georgia soils in 1987 to 1989. Flurtamone dissipation in soil was initially rapid but gradually slowed throughout the sampling interval. Dissipation was not affected by rate (0.8 or 1.7 kg ai ha-1) or application method (PPI or PRE). Dissipation rates were slightly more rapid in the Greenville and Dothan soils than in the Cecil soil, with calculated initial half-lives for each respective soil being 6 to 7, 8 to 10, and 9 to 23 days. There was no effect of previous flurtamone exposure on the dissipation rate in soil at any location. Weed science. July/Sept 1990. v. 38 (4/5). p. 411-415. Includes references. (NAL Call No.: DNAL 79.8 W41).

0547

Economic assessment of herbicide systems for minimum-tillage peanuts.
PNTSB. Wilcut, J.W. Wehtje, G.R.; Colvin, D.L.; Patterson, M.G. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1987. v. 14 (2). p. 83-86. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0548

Economic assessment of weed control systems for peanuts (Arachis hypogaea).
WEESA6. Wilcut, J.W. Wehtje, G.R.; Patterson, M.G. Champaign, Ill. : Weed Science Society of America. Weed science. May 1987. v. 35 (3). p. 433-437. Includes references. (NAL Call No.: DNAL 79.8 W41).

0549

Economics of weed control in peanuts (Arachis hypogaea) with herbicides and cultivations.
WEESA6. Wilcut, J.W. Wehtje, G.R.; Walker, R.H. Champaign, Ill. : Weed Science Society of America. Weed science. Sept 1987. v. 35 (5). p. 711-715. Includes references. (NAL Call No.: DNAL 79.8 W41).

0550

Effect of weed management strategy and planting date on herbicide use in peanuts (Arachis hypogaea).
WETEE9. Linker, H.M. Coble, H.D. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. Jan/Mar 1990. v. 4 (1). p. 20-25. Includes references. (NAL Call No.: DNAL SB610.W39).

0551

Effects of below-ground predator-weed interactions on damage to peanut by southern corn rootworm (Coleoptera: Chrysomelidae).
EVETEX. Brust, G.E. Lanham, Md. : Entomological Society of America. The below-ground effects of weeds (Amaranthus retroflexus L., Chenopodium album L., Ambrosia artemisiifolia L., Digitaria sanguinalis L., Setaria viridis L., Panicum dichotomiflorum Michx.) and increased soil moisture on damage to peanut pods by southern corn rootworm, Diabrotica undecimpunctata howardi Barber, was investigated in a 2-yr field and greenhouse study. Field experiments demonstrated that weedy areas had less pod damage overall and higher predator numbers than nonweedy areas. However, increased soil moisture, which increased southern corn rootworm oviposition and egg and larval survival, confounded the results. Greenhouse studies showed that three broadleaf species and three grass species were not as good food sources as peanuts for southern corn rootworm larvae. Although the presence of weeds growing with peanuts did not lower larval survival, weeds did significantly (P less than or equal to 0.05) slow larval developmental rate. In greenhouse studies, damage to peanut pods was approximately 66% in peanut-only (control) treatments, 55% in peanut + weed treatments, 32% in peanut predator treatments, and 9% in peanut + weed + predator treatments. The interaction of predators and weeds in lowering the amount of damage caused by southern corn rootworm was significant (P less than or equal to 0.05). Field and greenhouse experiments demonstrated that at least two factors were operating to reduce pest damage in this below-ground, multispecies plant association. Predators and the structural complexity of the weed-crop root association may be working synergistically to reduce southern corn rootworm damage to peanuts. Environmental entomology. Dec 1990. v. 19 (6). p. 1837-1844. Includes references. (NAL Call No.: DNAL QL461.E532).

0552

Efficacy of RE-40885 combinations in peanuts.
SWSPBE. Mueller, T.C. Banks, P.A. Raleigh, N.C. : The Society . Proceedings - Southern Weed Science Society. Paper presented at the "Meeting on Environmental Legislation and its Effects on Weed Science," Jan 18/20, 1988, Tulsa, Oklahoma. 1988. v. 41. p. 65. (NAL Call No.: DNAL 79.9 S08 (P)).

0553

Evaluation of herbicide systems in minimum- and conventional-tillage peanuts (Arachis hypogaea).
WEESA6. Wilcut, J.W. Wehtje, G.R.; Hicks, T.V. Champaign, Ill. : Weed Science Society of America. Field experiments were conducted from 1985 to 1987 to evaluate herbicide systems for minimum-tillage and conventional-tillage peanut production. While acceptable weed control could be achieved in both tillage systems, minimum-tillage systems generally had to be more herbicide intensive. Preemergence or preplant-incorporated within-the-row applications of either ethalfluralin or pendimethalin plus postemergence applications of paraquat and sethoxydim provided Texas panicum control equivalent to preplant-incorporated applications of ethalfluralin or pendimethalin. Early-postemergence paraquat applications improved Florida beggarweed and pitted morningglory control in conventional-tillage systems at least 15% compared to the same systems without paraquat. Control of bristly starbur and sicklepod in conventional-tillage systems did not increase with paraquat application. Broadleaf weed control did not differ between tillage systems, except pitted morningglory control was lower in the minimum-tillage system. Conventional-tillage peanuts produced yields 800 to 1900 kg/ha higher, depending on herbicide system, and also provided greater net returns than minimum-tillage peanuts. The greater yield and net returns in conventional versus minimal-tillage systems were not attributed to weed control or disease problems. Weed science. May 1990. v. 38 (3). p. 243-248. Includes references. (NAL Call No.: DNAL 79.8 W41).

0554

Evaluation of pyridate for postemergence weed control in peanuts.
SWSPBE. MacDonald, G.E. Brecke, B.J.; Colvin, D.L. Raleigh, N.C. : The Society . Proceedings - Southern Weed Science Society. Paper presented at the "Meeting on Environmental Legislation and its Effects on Weed Science," Jan 18/20, 1988, Tulsa, Oklahoma. 1988. v. 41. p. 64. (NAL Call No.: DNAL 79.9 S08 (P)).

0555

Evaluation of selected herbicides in peanuts for preemergence control of Florida beggarweed.
SWSPBE. McLean, H.S. Holt, T. Raleigh, N.C. : The Society . Proceedings - Southern Weed Science Society. Paper presented at the "Meeting on Environmental Legislation and its Effects on Weed Science," Jan 18/20, 1988, Tulsa, Oklahoma. 1988. v. 41. p. 67. (NAL Call No.: DNAL 79.9 S08 (P)).

0556

Growth and development of Florida beggarweed (Desmodium tortuosum) selections.
WEESA6. Cardina, J. Brecke, B.J. Champaign, Ill. : Weed Science Society of America. Florida beggarweed seeds were collected in Georgia, Florida, and South Carolina from plants differing in morphological characteristics. Seedlings were transplanted into peanut rows in field studies at Tifton, GA, and Jay, FL, in 1986 and 1987, and frequent observations of vegetative and reproductive characteristics were made. The competitiveness of the Florida beggarweed selections was evaluated by comparing pod weights from peanut plants grown in rows adjacent to the individual weed selections with pod weights of weed-free peanuts. There were significant differences among selections of Florida beggarweed in days to maximum height, maximum node formation, maximum branching, and initial flowering and fruiting at both locations. Selection GA-1 generally reached these growth stages earliest, was shorter, narrower, had fewer nodes, and produced less dry matter and fewer seeds than GA-2, which was generally the latest maturing selection. GA-4 produced fewer branches and smaller seeds than the other selections. Peanut pod weights adjacent to Florida beggarweed plants were reduced 12 to 18% in 1986 and 10 to 24% in 1987 compared to weed-free checks. Florida beggarweed selection GA-2 was the most competitive and GA-4 was among the least competitive both years. The variation of measured parameters among Florida beggarweed selections in this study may contribute to the survival and adaptability of this weed with changing environmental conditions, cultural practices, and control measures. Weed science. Mar 1989. v. 37 (2). p. 207-210. Includes references. (NAL Call No.: DNAL 79.8 W41).

0557

Growth and development of Florida beggarweed in peanuts.
SWSPBE. Cardina, J. Raleigh, N.C. : The Society . Proceedings - Southern Weed Science Society. Paper presented at the "Meeting on Environmental Legislation and its Effects on Weed Science," Jan 18/20, 1988, Tulsa, Oklahoma.~ Includes abstract. 1988. v. 41. p. 300. (NAL Call No.: DNAL 79.9 S08 (P)).

0558

Herbicide field evaluation trials on field crops, 1986.
Frans, R. Corbin, B.; Johnson, D.; McClelland, M. Fayetteville : The Station. Research series - University of Arkansas Agricultural Experiment Station. Includes statistical data. Mar 1987. (354). 92 p. (NAL Call No.: DNAL S541.5.A8R47).

0559

Herbicide replacements for dinoseb in peanuts.
GARRA. Banks, P.A. Athens, Ga. : The Stations. Research report - University of Georgia, College of Agriculture, Agricultural Experiment Stations. Apr 1989. (566). 8 p. Includes references. (NAL Call No.: DNAL S51.E22).

0560

Host status of seven weed species and their effects on Ditylenchus destructor infestation of peanut.
JONEB. De Waele, D. Jordaan, E.M.; Basson, S. Lake Alfred, Fla. : Society of Nematologists. Journal of nematology. July 1990. v. 22 (3). p. 292-296. Includes references. (NAL Call No.: DNAL QL391.N4J62).

0561

Influence of sequential dew periods on biocontrol of sicklepod (Cassia obtusifolia) by Alternaria cassiae.
PLDRA. Walker, H.L. Boyette, C.D. St. Paul, Minn. : American Phytopathological Society. Plant disease. Oct 1986. v. 70 (10). p. 962-963. Includes references. (NAL Call No.: DNAL 1.9 P69P).

0562

Interaction of bentazon and paraquat for peanut weed control.
SWSPBE. Evans, J.R. Turner, J.C.; Gourd, D.R.; McKemie, T.E. Raleigh, N.C. : The Society . Proceedings - Southern Weed Science Society. Paper presented at the "Meeting on Environmental Legislation and its Effects on Weed Science," Jan 18/20, 1988, Tulsa,

Oklahoma. 1988. v. 41. p. 68. (NAL Call No.: DNAL 79.9 S08 (P)).

0563

Interactive effects of tobacco thrips control and herbicides on competition between large crabgrass (Digitaria sanguinalis) and peanuts (Arachis hypogaea).
WEESA6. Murdock, E.C. Alden, J.A.; Toler, J.E. Champaign, Ill. : Weed Science Society of America. Weed science. Nov 1986. v. 34 (6). p. 896-900. Includes references. (NAL Call No.: DNAL 79.8 W41).

0564

Interference of horsenettle (Solanum carolinense) with peanuts (Arachis hypogaea).
WEESA6. Hackett, N.M. Murray, D.S.; Weeks, D.L. Champaign, Ill. : Weed Science Society of America. Weed science. Nov 1987. v. 35 (6). p. 780-784. Includes references. (NAL Call No.: DNAL 79.8 W41).

0565

Interference of silverleaf nightshade (Solanum elaeagnifolium) on Spanish peanuts (Arachis hypogaea).
PNTSB. Hackett, N.M. Murray, D.S.; Weeks, D.L. Raleigh : American Peanut Research and Education Society. Peanut science. Jan/June 1987. v. 14 (1). p. 39-41. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0566

Invert emulsions: carrier and water source for the mycoherbicide, Alternaria cassiae.
WETEE9. Daigle, D.J. Connick, W.J. Jr.; Quimby, P.C. Jr.; Evans, J.; Trask-Morrell, B.; Fulgham, F.E. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. Apr/June 1990. v. 4 (2). p. 327-331. Includes references. (NAL Call No.: DNAL SB610.W39).

0567

Irrigation application of lactofen to soybean and peanut.
SWSPBE. Dowler, C.C. Raleigh, N.C. : The Society . Proceedings - Southern Weed Science Society. Paper presented at the "Meeting on Environmental Legislation and its Effects on Weed Science," Jan 18/20, 1988, Tulsa, Oklahoma. 1988. v. 41. p. 45. (NAL Call No.: DNAL 79.9 S08 (P)).

0568

Label summary for use of lactofen in peanuts.
SWSPBE. Hagwood, H.B. Nichols, R.L.; Bates, M.R.; Trammell, C.A. Raleigh, N.C. : The Society . Proceedings - Southern Weed Science Society. Paper presented at the "Meeting on Environmental Legislation and its Effects on Weed Science," Jan 18/20, 1988, Tulsa, Oklahoma. 1988. v. 41. p. 70. (NAL Call No.: DNAL 79.9 S08 (P)).

0569

Low-cost weed control systems for close-row peanuts (Arachis hypogaea).
WEESA6. Cardina, J. Mixon, A.C.; Wehtje, G.R. Champaign, Ill. : Weed Science Society of America. Weed science. Sept 1987. v. 35 (5). p. 700-703. Includes references. (NAL Call No.: DNAL 79.8 W41).

0570

Peanut weed control after dinoseb.
HARAA. Wehtje, G.R. Wilcut, J.W. Auburn, Ala. : The Station. Highlights of agricultural research - Alabama Agricultural Experiment Station. Spring 1988. v. 35 (1). p. 5. (NAL Call No.: DNAL 100 AL1H).

0571

Peanut weed control systems utilizing RE-40885.
PNTSB. Mueller, T.C. Banks, P.A. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1989. v. 16 (2). p. 87-91. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0572

Peanut yield and weed control as affected by timing and application rate of chlorimuron.
SWSPBE. Colvin, D.L. Brecke, B.J. Raleigh, N.C. : The Society . Proceedings - Southern Weed Science Society. Paper presented at the "Meeting on Environmental Legislation and its Effects on Weed Science," Jan 18/20, 1988, Tulsa, Oklahoma. 1988. v. 41. p. 60. (NAL Call No.: DNAL 79.9 S08 (P)).

0573

Postemergence grass control in peanut (Arachis hypogaea).
WEESA6. Grichar, W.J. Boswell, T.E. Champaign, Ill. : Weed Science Society of America. Weed science. July 1986. v. 34 (4). p. 587-590. Includes 7 references. (NAL Call No.: DNAL 79.8 W41).

0574

Postemergence weed control systems without dinoseb for peanuts (Arachis hypogaea.
WEESA6. Wilcut, J.W. Wehtje, G.R.; Cole, T.A.; Hicks, R.V.; McGurie, J.A. Champaign, Ill. : Weed Science Society of America. Postemergence treatments utilizing various combinations of fluazifop-P, paraquat, and 2,4-DB were compared to a preplant-incorporated (PPI) application of benefin followed by a ground-cracking application of alachlor and dinoseb plus naptalam and a postemergence application of 2,4-DB for weed control, peanut yield, and net economic return to land, overhead, and management. The greatest peanut yields (3-yr average of 4510 kg/ha) and net returns (3-yr average of $521/ha) were provided by a postemergence system that utilized one ground-cracking and one postemergence application of paraquat and one postemergence application of fluazifop-P and 2,4-DB. Seven postemergence systems provided equivalent or greater yield and net returns than the PPI and dinoseb plus naptalam system. Fresh weight reductions of Texas panicum, sicklepod, Florida beggarweed, and pitted morningglory from postemergence weed control systems were equivalent to reductions obtained from the PPI and dinoseb plus naptalam system. The addition of paraquat and 2,4-DB to the PPI and dinoseb plus naptalam system improved the 3-yr average peanut yield and net economic return by 510 kg/ha and $136/ha, respectively, compared to the same system without paraquat and 2,4-DB. Weed science. May 1989. v. 37 (3). p. 385-391. Includes references. (NAL Call No.: DNAL 79.8 W41).

0575

Postemergence weed management systems for peanuts (Arachis hypogaea).
WETEE9. Wilcut, J.W. Wehtje, G.R.; Hicks, T.V.; Cole, T.A. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. Apr/June 1990. v. 4 (2). p. 239-244. Includes references. (NAL Call No.: DNAL SB610.W39).

0576

A progress report on cinmethylin for soybeans, cotton, and peanuts.
SWSPBE. Williams, C.S. Gillham, L.B.; May, J.W. Raleigh, N.C. : The Society . Proceedings - Southern Weed Science Society. Paper presented at the "Meeting on Environmental Legislation and its Effects on Weed Science," Jan 18/20, 1988, Tulsa, Oklahoma. 1988. v. 41. p. 47. (NAL Call No.: DNAL 79.9 S08 (P)).

0577

Propachlor metabolism in soybean plants, excised soybean tissues, and soil.
PCBPB. Lamoureux, G.L. Rusness, D.G. Duluth, Minn. : Academic Press. Pesticide biochemistry and physiology. July 1989. v. 34 (3). p. 187-204. Includes references. (NAL Call No.: DNAL SB951.P49).

0578

Pursuit herbicide: weed control and efficacy in peanuts.
SWSPBE. Youmans, C.D. Muzyk, K.; Walls, F.R. Raleigh, N.C. : The Society . Proceedings - Southern Weed Science Society. Paper presented at the "Meeting on Environmental Legislation and its Effects on Weed Science," Jan 18/20, 1988, Tulsa, Oklahoma. 1988. v. 41. p. 61. (NAL Call No.: DNAL 79.9 S08 (P)).

0579

Relative tolerance of peanuts to alachlor and metolachlor.
PNTSB. Wehtje, G. Wilcut, J.W.; Hicks, T.V.; McGuire, J. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1988. v. 15 (2). p. 53-56. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0580

Tank mixes of Basagran and/or 2,4-db with postemergence grass herbicides for weed control in peanuts (Arachis hypogaea).
Grichar, W.J. Boswell, T.E. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. Feb 1988. (4548). 12 p. Includes references. (NAL Call No.: DNAL 100 T31P).

0581

Texas panicum (Panicum texanum) control in peanuts (Arachis bypogaea) with paraquat.
WEESA6. Wehtje, G. McGuire, J.A.; Walker, R.H.; Patterson, M.G. Champaign, Ill. : Weed Science Society of America. Weed science. Mar 1986. v. 34 (2). p. 308-311. Includes 12 references. (NAL Call No.: DNAL 79.8 W41).

0582

Timing of paraquat applications for weed control in Virginia-type peanuts (Arachis hypogaea).
WEESA6. Wilcut, J.W. Swann, C.W. Champaign, Ill. : Weed Science Society of America. Common ragweed was the most difficult to control of the species present and its control appeared to have the greatest effect on peanut yield. Preplant-incorporated (PPI) treatments provided

no control of common ragweed but ethalfluralin plus vernolate PPI provided better than 90% control of yellow nutsedge and nearly 50% control of morningglory species. Single applications of paraquat at 0.14 kg ai ha-1 following PPI applications of ethalfluralin or ethalfluralin plus vernolate provided less than 75% common ragweed control. Sequential applications of paraquat applied 1 and 3 weeks after peanut emergence (1 + 3 WAE) provided at least 81% common ragweed control. Peanut yield with ethalfluralin plus vernolate PPI followed by paraquat 1 WAE (4400 kg ha-1) was equivalent to the handweeded yield (4470 kg ha-1). Yields were not significantly less with the same PPI application followed by paraquat 1 + 3 WAE (3730 kg ha-1) or by acifluorfen plus bentazon 3 WAE (3730 kg ha-1), and ethalfluralin PPI followed by paraquat 1 + 3 WAE (3740 kg ha-1). Ethalfluralin plus vernolate PPI and paraquat 1 WAE provided the highest net returns of $1370 ha-1. Weed science. Nov 1990. v. 38 (6). p. 558-562. Includes references. (NAL Call No.: DNAL 79.8 W41).

0583

Use of the controlled droplet applicator for weed control in peanuts.
Grichar, W.J. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. Includes statistical data. Jan 1988. (4543). 10 p. Includes references. (NAL Call No.: DNAL 100 T31P).

0584

Weed control.
Everest, J.W. Hartzog, D.; Wehtje, G.; Walker, H. Auburn, Ala. : The Service. Circular ANR - Alabama Cooperative Extension Service, Auburn University. In series analytic: Peanut Pest Management. AGL. Dec 1988. (360). p. 1-5. (NAL Call No.: DNAL S544.3.A2C47).

0585

Weed control and response of peanuts (Arachis hypogaea) to chlorimuron.
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Wild poinsettia (Euphorbia heterophylla) control in peanut Arachis hypogaea).
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Chemical control of foliar diseases of peanuts, peppers, and onions as affected by spray nozzle types, nozzle orientations, spray intervals, and adjuvants.
PLDRA. Kucharek, T.A. Cullen, R.E.; Stall, R.E.; Llewellyn, B. St. Paul, Minn. : American Phytopathological Society. Plant disease. June 1986. v. 70 (6). p. 583-586. Includes 15 references. (NAL Call No.: DNAL 1.9 P69P).

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The effect of loose-shelled kernels and foreign material on pirimiphos-methyl residues in stored farmers stock peanuts.
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Interaction of bentazon and paraquat for peanut weed control.
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Irrigation of peanuts.
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Mechanisms of selective action of sodium sulfanilate on plants.
PCBPB. Zhang, L.H. Lin, K.H. Duluth, Minn. : Academic Press. Pesticide biochemistry and physiology. Sept 1988. v. 32 (1). p. 11-16. Includes references. (NAL Call No.: DNAL

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Metolachlor effects on peanut growth and development.
PNTSB. Cardina, J. Swann, C.W. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1988. v. 15 (2). p. 57-60. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0610

Wild poinsettia (Euphorbia heterophylla) control in peanut Arachis hypogaea).
WEESA6. Moore, J.D. Banks, P.A.; Pinnell-Alison, C.L. Champaign, Ill. : Weed Science Society of America. Wild poinsettia control in peanut was evaluated following various preplant-incorporated and postemergence herbicide applications. The addition of vernolate or alachlor to a preplant-incorporated treatment of benefin improved wild poinsettia control obtained with treatments of lactofen or paraquat plus alachlor applied at the time of peanut emergence. Lactofen applied postemergence following lactofen plus alachlor applied at the time of peanut emergence provided greater than or equal to 92% wild poinsettia control and peanut yields equivalent to the handweeded control. Treatments of paraquat plus alachlor applied at the time of peanut emergence followed by acifluorfen (applied once or twice) or paraquat followed by acifluorfen provided good (74 to 100%) wild poinsettia control for up to 12 weeks after planting and peanut yields not different from the handweeded plots. Treatments that did not provide at least 92% wild poinsettia control when evaluated 5 weeks after planting resulted in significant peanut yield reduction compared to the handweeded control. Weed science. Nov 1990. v. 38 (6). p. 536-540. Includes references. (NAL Call No.: DNAL 79.8 W41).

0611

The effect of pseudomonas siderophores on iron nutrition of plants.
NASSD. Hadar, Y. Jurkevitch, E.; Chen, Y. New York, N.Y. : Plenum Press. NATO advanced science institutes series : Series A : Life sciences. In the series analytic: Iron, siderophores, and plant diseases / edited by T.R. Swinburne. Paper presented at the "NATO Advanced Research Workshop," July 1-5, 1985, Wye, Kent, England. 1986. v. 117. p. 43-48. Includes references. (NAL Call No.: DNAL QH301.N32).

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Effects of infection by peanut mottle virus on nodule function.
PHYTA. Wongkaew, S. Peterson, J.F. St. Paul, Minn. : American Phytopathological Society. Phytopathology. Mar 1986. v. 76 (3). p. 294-300. ill. Includes 36 references. (NAL Call No.: DNAL 464.8 P56).

0613

Involvement of bacterial siderophores in the remedy of lime-induced chlorosis in peanut.
SSSJD4. Jurkevitch, E. Hadar, Y.; Chen, Y. Madison, Wis. : The Society. A Pseudomonas putida strain isolated from peanut (Arachis hypogaea L.) roots excreted yellow-green fluorescent siderophores (pigments) when grown under Fe-deficient conditions. The pigments were purified in their Fe complex form. Chromatography yielded eight peaks, the first two representing >90% of the total. Physico-chemical characteristics of the materials exhibiting these two peaks were similar in to those of pseudobactin-pyoveridine class of sidero phores. In two growth chamber experiments peanut plants grown on a highly calcareous soil were able to use the Fe from unpurified Fe-siderophore produced by P. putida cultures. When supplied with 11 mg Ke kg-1 soil as Fe-siderophore the chlorophyll concentration in the leaves was 75% of that of FeEDDHA (ethylenediamine di-o-hydroxyphenylacetic acid)-treated plants. Control plants that were not fertilized with Fe contained only 35% chlorophyll of that of FeEDDHA-treated plants. Nonferrated siderophores were ineffective in correcting Fe deficiency. Relative chlorophyll concentration in the leaves of the treatment supplemented with Fe-siderophore and bacterial cells was similar to that applications that did not contain bacterial cells. In a second experiment, 100% remedy of the deficiency was achieved when 19 mg Ke kg-1 soil as Fe-siderophores was applied in comparison to 1.2 mg Fe k-1 soil as FeEDDHA. The degree of remedy of chlorosis was independent on the frequency of application (two or four times a month). In these treatments total bacterial and fluorescent pseudomonad counts colony-forming units (cfu) g-1 dry roots) were significantly higher than in the unfertilized and FeEDDHA treatments. The level of DTPA (diethylenetriaminepentaacetic acid) extractable Fe at the end of the growth period in both experiments was significantly higher in Fe-siderophore amended soils than in FeEDDHA-treated soils. In a third experiment, the siderophore Ferrioxamine B (FOB) was used as a source of FE. Iron applications of 22.5 and. Soil Science Society of America journal. July/Aug 1988. v. 52 (4). p. 1032-1037. Includes references. (NAL Call No.: DNAL 56.9 SO3).

0614

Propachlor metabolism in soybean plants, excised soybean tissues, and soil.
PCBPB. Lamoureux, G.L. Rusness, D.G. Duluth, Minn. : Academic Press. Pesticide biochemistry and physiology. July 1989. v. 34 (3). p. 187-204. Includes references. (NAL Call No.: DNAL SB951.P49).

0615

Response of peanut to strains of Bradyrhizobium and N fertilizer.
CSOSA2. Kvien, C.S. Pallas, J.E. New York, N.Y. : Marcel Dekker. Communications in soil science and plant analysis. May 1986. v. 17 (5). p. 497-513. Includes 28 references. (NAL Call No.: DNAL S590.C63).

0616

Dissipation of flurtamone in three Georgia soils.
WEESA6. Mueller, T.C. Banks, P.A.; Bridges, D.C. Champaign, Ill. : Weed Science Society of America. The dissipation of flurtamone was determined in three Georgia soils in 1987 to 1989. Flurtamone dissipation in soil was initially rapid but gradually slowed throughout the sampling interval. Dissipation was not affected by rate (0.8 or 1.7 kg ai ha-1) or application method (PPI or PRE). Dissipation rates were slightly more rapid in the Greenville and Dothan soils than in the Cecil soil, with calculated initial half-lives for each respective soil being 6 to 7, 8 to 10, and 9 to 23 days. There was no effect of previous flurtamone exposure on the dissipation rate in soil at any location. Weed science. July/Sept 1990. v. 38 (4/5). p. 411-415. Includes references. (NAL Call No.: DNAL 79.8 W41).

0617

Mineralization and leaching of phosphorus from soil incubated with surface-applied and incorporated crop residue.
JEVQAA. Sharpley, A.N. Smith, S.J. Madison, Wis. : American Society of Agronomy. With the increasing use of conservation tillage, consideration of crop residue as a potential source of plant-available P and mobility of this P in soil will be important from both agronomic and environmental standpoints. The effect of placement (surface or incorporation) of residue of six crop types (alfalfa, Medicago sativa L.; corn, Zea mays L.; oat, Avena sativa L.; peanut, Arachis hypogaea L.; soybean, Glycine max (L) Merr.; wheat, Triticum aestivum L.) on the mineralization and leaching of P from eight soils was investigated. Significantly greater (1.0% level) amounts of inorganic P were leached from surface-applied compared to incorporated residues during the 84-d incubation at 35 degrees C, with the maximum amount leached after 28 d. The opposite was true for organic P, with greater amounts leached from incorporated residue than from surface-applied residue. These amounts steadily decreased during the 84-d incubation. Apparently, mineralization of residue P and movement within the soil was greater for surface-applied compared to incorporated residue and was a positive linear function of available soil P content (r2 = 0.69-0.81). Any increase in soil P solubility caused by residue leachate would be expected to occur to a greater extent with an increase in available soil P. Leaching of mineralized P may be an important source of available P during initial crop growth. Journal of environmental quality. Jan/Mar 1989. v. 18 (1). p. 101-105. Includes references. (NAL Call No.: DNAL QH540.J6).

0618

Benefit of foliar spray phosphorus on peanuts in relation to gypsum and phosphorus application to soil.
JESEDU. Sistani, K.R. Morrill, L.G. New York, N.Y. : Marcel Dekker. Journal of environmental science and health : Part A : Environmental science and engineering. 1989. v. 24 (4). p. 429-436. Includes references. (NAL Call No.: DNAL TD172.J6).

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Calcium, nitrogen, and rhizobium effects on Arachis hypogaea L. Valencia C.
PNTSB. Taylor, R.G. Moshrefi, K. Raleigh : American Peanut Research and Education Society. Peanut science. Jan/June 1987. v. 14 (1). p. 31-33. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0620

Diagnosis of zinc deficiency in peanut (Arachis hypogaea L.) by plant analysis.
CSOSA2. Bell, R.W. Kirk, G.; Plaskett, D.; Loneragan, J.F. New York, N.Y. : Marcel Dekker. Communications in soil science and plant analysis. 1990. v. 21 (3/4). p. 273-285. Includes references. (NAL Call No.: DNAL S590.C63).

0621

The effect of pseudomonas siderophores on iron nutrition of plants.
NASSD. Hadar, Y. Jurkevitch, E.; Chen, Y. New York, N.Y. : Plenum Press. NATO advanced science institutes series : Series A : Life sciences. In the series analytic: Iron, siderophores, and plant diseases / edited by T.R. Swinburne. Paper presented at the "NATO Advanced Research Workshop," July 1-5, 1985, Wye, Kent, England. 1986. v. 117. p. 43-48. Includes references. (NAL Call No.: DNAL QH301.N32).

0622

Gypsum and lime effects on the germination quality and fungal infection of peanut seed.
AAREEZ. Bell, D.K. Csinos, A.S.; Walker, M.E. New York, N.Y. : Springer. Applied agricultural research. 1988. v. 3 (3). p. 153-159. Includes references. (NAL Call No.: DNAL S539.5.A77).

0623

Influence of the size of indigenous rhizobial populations on establishment and symbiotic performance of introduced rhizobia on field-grown legumes.
APMBA. Thies, J.E. Singleton, P.W.; Bohlool, B.B. Washington, D.C. : American Society for Microbiology. Indigenous rhizobia in soil present a competition barrier to the establishment of inoculant strains, possibly leading to inoculation failure. In this study, we used the natural diversity of rhizobial species and numbers in our fields to define, in quantitative terms, the relationship between indigenous rhizobial populations and inoculation response. Eight standardized inoculation trials were conducted at five well-characterized field sites on the island of Maui, Hawaii. Soil rhizobial populations ranged from 0 to over 3.5 X 10(4) g of soil-1 for the different legumes used. At each site, no less than four but as many as seven legume species were planted from among the following: soybean (Glycine max), lima bean (Phaseolus lunatus), cowpea (Vigna unguiculata), bush bean (Phaseolus vulgaris), peanut (Arachis hypogaea), Leucaena leucocephala, tinga pea (Lathyrus tingeatus), alfalfa (Medicago sativa), and clover (Trifolium repens). Each legume was (i) inoculated with an equal mixture of three effective strains of homologous rhizobia, (ii) fertilized at high rates with urea, or (iii) left uninoculated. For soybeans, a nonnodulating isoline was used in all trials as the rhizobia-negative control. Inoculation increased economic yield for 22 of the 29 (76%) legume species-site combinations. While the yield increase was greater than 100 kg ha-1 in all cases, in only 11 (38%) of the species-site combinations was the increase statistically significant (P less than or equal to 0.05). On average, inoculation increased yield by 62%. Soybean (G. max) responded to inoculation most frequently, while cowpea (V. unguiculata) failed to respond in all trials. Inoculation responses in the other legumes were site dependent. The response to inoculation and the competitive success of inoculant rhizobia were inversely related to numbers of indigenous rhizobia. As few as 50 rhizobia g of soil-1 eliminated inoculation response. When fewer than 10 indigenous rhizobia g of soil-1 were present,. Applied and environmental microbiology. Jan 1991. v. 57 (1). p. 19-28. Includes references. (NAL Call No.: DNAL 448.3 AP5).

0624

Mineralization and leaching of phosphorus from soil incubated with surface-applied and incorporated crop residue.
JEVQAA. Sharpley, A.N. Smith, S.J. Madison, Wis. : American Society of Agronomy. With the increasing use of conservation tillage, consideration of crop residue as a potential source of plant-available P and mobility of this P in soil will be important from both agronomic and environmental standpoints. The effect of placement (surface or incorporation) of residue of six crop types (alfalfa, Medicago

sativa L.; corn, Zea mays L.; oat, Avena sativa L.; peanut, Arachis hypogaea L.; soybean, Glycine max (L) Merr.; wheat, Triticum aestivum L.) on the mineralization and leaching of P from eight soils was investigated. Significantly greater (1.0% level) amounts of inorganic P were leached from surface-applied compared to incorporated residues during the 84-d incubation at 35 degrees C, with the maximum amount leached after 28 d. The opposite was true for organic P, with greater amounts leached from incorporated residue than from surface-applied residue. These amounts steadily decreased during the 84-d incubation. Apparently, mineralization of residue P and movement within the soil was greater for surface-applied compared to incorporated residue and was a positive linear function of available soil P content (r2 = 0.69-0.81). Any increase in soil P solubility caused by residue leachate would be expected to occur to a greater extent with an increase in available soil P. Leaching of mineralized P may be an important source of available P during initial crop growth. Journal of environmental quality. Jan/Mar 1989. v. 18 (1). p. 101-105. Includes references. (NAL Call No.: DNAL QH540.J6).

0625

Modeling symbiotic performance of introduced rhizobia in the field by use of indices of indigenous population size and nitrogen status of the soil.
APMBA. Thies, J.E. Singleton, P.W.; Bohlool, B.B. Washington, D.C. : American Society for Microbiology. Lactococcus lactis subsp. cremoris P8-2-47 contains an X-prolyl dipeptidyl aminopeptidase (X-PDAP; EC 3.4.14.5). A mixed-oligonucleotide probe prepared on the basis of the N-terminal amino acid sequence of the purified protein was made and used to screen a partial chromosomal DNA bank in Escherichia coli. A partial XbaI fragment cloned in pUC18 specified X-PDAP activity in E. coli clones. The fragment was also able to confer X-PDAP activity on Bacillus subtilis. The fact that none of these organisms contain this enzymatic activity indicated that the structural gene for X-PDAP had been cloned. The cloned fragment fully restored X-PDAP activity in X-PDAP-deficient mutants of L. lactis. We have sequenced a 3.8-kb fragment that includes the X-PDAP gene and its expression signals. The X-PDAP gene, designated pepXP, comprises 2,289 nucleotide residues encoding a protein of 763 amino acids with a predicted molecular weight of 87,787. No homology was detected between pepXP and genes that had been previously sequenced. A second open reading frame, divergently transcribed, was present in the sequenced fragment; the function or relationship to pepXP of this open reading frame is unknown. Applied and environmental microbiology. Jan 1991. v. 57 (1). p. 29-37. Includes references. (NAL Call No.: DNAL 448.3 AP5).

0626

Relationship between soil-test P and K yield response of runner peanuts to fertilzer.
CSOSA2. Hartzog, D.L. Adams, J.F. New York, N.Y. : Marcel Dekker. Communications in soil science and plant analysis. Nov 1988. v. 19 (14). p. 1645-1653. Includes references. (NAL Call No.: DNAL S590.C63).

0627

The residual effect of sewage sludge on heavy metal content of tobacco and peanut.
JEVQAA. King, L.D. Hajjar, L.M. Madison, Wis. : American Society of Agronomy. Sewage sludge normally would not be applied on land where peanut (Arachis hypogaea L.) or tobacco (Nicotiana tabacum L.) are being grown because of possible contamination of peanut with pathogens and increased Cd concentration in tobacco. These crops, however, might be grown in rotation with other crops to which sludge had been applied. The residual effect of sewage sludge on metal concentrations in tobacco and peanut was evaluated in a greenhouse pot experiment with a Typic Hapludult soil from a field that received aerobically digested municipal sewage sludge at 0, 9, 18, and 27 Mg ha-1yr-1 for 3 yr. Cumulative amount of metals applied at the 27-Mg rate were (kg ha-1) 1.8 Cd, 39 Cu, 48 Cr, 9 Ni, 30 Pb, and 84 Zn. Sulfuric acid or Ca(OH)2 was used to effect three soil pH regimes: 5.2, 5.8, and 6.4 (median value within each regime). Tobacco ('Speight G-28') was grown to flowering and peanut (NC 7) was grown to maturity. At the termination of the experiment, soils were extracted with diethylenetriaminepentaacetic acid (DTPA) and Mehlich 3 extractant (M3) for metal analysis. Tobacco dry weight (averaged over pH) increased from 66 g pot-1 with no sludge to 94 g pot-1 at the highest sludge rate. Peanut kernel yield (averaged over pH) was depressed at the highest rate (35 g pot-1) as compared to the lower rates (mean of 48 g pot-1). At low pH peanut top growth was depressed by sludge (probably a result of Zn toxicity) and no kernels were formed at the medium and high rates. Sludge rates and soil pH had little effect on concentration of Cr and Pb in tobacco or peanut. Concentration of Cd, Ni, and Zn in tobacco and in peanut top growth decreased as soil pH increased to 5.8 to 6.0 but no decrease was noted at higher pH. Sludge rate effect was significant at low pH but diminished as pH increased. Concentration of Cd, Ni, and Zn declined but Cu concentration increased with increasing height of leaf on the tobacco stalk. Results of stepwise multiple regression using linear an. Journal of environmental quality. Oct/Dec 1990. v. 19 (4). p. 738-748. Includes references. (NAL Call No.: DNAL QH540.J6).

0628

Response of peanut to strains of Bradyrhizobium and N fertilizer.
CSOSA2. Kvien, C.S. Pallas, J.E. New York, N.Y. : Marcel Dekker. Communications in soil science and plant analysis. May 1986. v. 17 (5). p. 497-513. Includes 28 references. (NAL Call No.: DNAL S590.C63).

0629

Soil pH and manganese effects on manganese nutrition of peanut.
AGJOAT. Parker, M.B. Walker, M.E. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1986. v. 78 (4). p. 614-620. Includes references. (NAL Call No.: DNAL 4 AM34P).

0630

Cassava-cowpea and cassava-peanut intercropping. I. Yield and land use efficiency.
AGJOAT. Mason, S.C. Leihner, D.E.; Vorst, J.J. Madison, Wis. : American Society of Agronomy. Agronomy journal. Jan/Feb 1986. v. 78 (1). p. 43-46. ill. Includes references. (NAL Call No.: DNAL 4 AM34P).

0631

Cassava-cowpea and cassava-peanut intercropping. II. Leaf area index and dry matter accumulation.
AGJOAT. Mason, S.C. Leihner, D.E.; Vorst, J.J.; Salazar, E. Madison, Wis. : American Society of Agronomy. Agronomy journal. Jan/Feb 1986. v. 78 (1). p. 47-53. Includes references. (NAL Call No.: DNAL 4 AM34P).

0632

Cassava-cowpea and cassava-peanut intercropping. III. Nutrient concentrations and removal.
AGJOAT. Mason, S.C. Leihner, D.E.; Vorst, J.J. Madison, Wis. : American Society of Agronomy. Agronomy journal. May/June 1986. v. 78 (3). p. 441-444. Includes references. (NAL Call No.: DNAL 4 AM34P).

0633

Comparison of no-tillage, minimum, and full tillage cultural practices on peanuts.
PNTSB. Grichar, W.J. Boswell, T.E. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1987. v. 14 (2). p. 101-103. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0634

Corn-peanut intercrop performance in relation to component crop relative planting dates.
AGJOAT. Misbahulmunir, M.Y. Sammons, D.J.; Weil, R.R. Madison, Wis. : American Society of Agronomy. A two-yr (1982 and 1983) field study was conducted to determine the vegetative and reproductive effects of three intercrop treatments on corn (Zea mays L.) SS 335 A hybrid and peanut (Arachis hypogaea L.) 'Florunner'. Three planting time treatments of corn relative to peanut (2 or 3 wk before, simultaneous, and 2 or 3 wk after) were compared. Sole crops of each species were also established. Initial vegetative growth of peanut was greatest when intercropped with corn planted after peanut. Intercropped corn planted before peanut matured early but, after harvest, did not result in an environment favorable for peanut to compensate for early season growth reductions. Dry weights of intercropped peanut, regardless of relative time of corn planting, were reduced to half or less of those of sole-crop peanut. Reproductive development of both species when intercropped was generally not affected by relative planting times. Grain yields of intercropped corn were 85 to 90% and 46 to 74% of sole-crop yields in 1982 and 1983, respectively. Intercropped peanut yielded 33 to 37% and 47 to 49% of sole-crop yield in 1982 and 1983, respectively. Land equivalent ratios for intercrop combinations were not significantly affected by relative planting times; they ranged from 1.20 to 1.25 and 0.96 to 1.26 in 1982 and 1983, respectively. Corn contributed 69 to 72% and 49 to 62% of total intercrop production in 1982 and 1983, respectively. The results suggest that greatest total productivity in a corn-peanut intercrop will occur when corn is planted either simultaneously with or earlier than peanut. The highest intercrop peanut yields tended to occur when corn and peanut were planted simultaneously. Agronomy journal. Mar/Apr 1989. v. 81 (2). p. 184-189. Includes references. (NAL Call No.: DNAL 4 AM34P).

0635

Economic assessment of herbicide systems for minimum-tillage peanuts.
PNTSB. Wilcut, J.W. Wehtje, G.R.; Colvin, D.L.; Patterson, M.G. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1987. v. 14 (2). p. 83-86. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0636

Effects of two planting dates and three tillage systems on the abundance of lesser cornstalk borer (Lepidoptera: Pyralidae), other selected insects, and yield in peanut fields.
JEENAI. Mack, T.P. Backman, C.B. Lanham, Md. : Entomological Society of America. The effect of planting date and tillage system on the abundance of several insects in 'Florunner' peanuts (Arachis hypogaea L.) was examined in a 2-yr replicated field experiment. Two planting dates (late May and mid-June) and three tillage systems (conventional, reduced, and burned stubble) were evaluated. The abundance of the lesser cornstalk borer, Elasmopalpus lignosellus (Zeller), elaterids, carabids, and labidurids was monitored weekly with pitfall traps. Counts of lesser cornstalk borer, labidurid, carabid, and elaterid varied with year. Counts of lesser cornstalk borers and carabids were significantly greater in 1986 than in 1987, whereas counts of elaterids and labidurids were greater in 1987. Approximately 1.9 times more lesser cornstalk borers were captured in traps from late-planted peanuts in both years. Labidurid abundance was unaffected by planting date. Carabids were more abundant in late-planted peanuts in 1987, but planting date did not affect abundance in 1986 or when data from both years were combined. Tillage system did not affect the abundance of any of the insects monitored in either year. These experiments indicate that planting early should effectively decrease lesser cornstalk borer

abundance in conventionally tilled and reduced-tillage peanuts. Journal of economic entomology. June 1990. v. 83 (3). p. 1034-1041. Includes references. (NAL Call No.: DNAL 421 J822).

0637

Evaluation of herbicide systems in minimum- and conventional-tillage peanuts (Arachis hypogaea).
WEESA6. Wilcut, J.W. Wehtje, G.R.; Hicks, T.V. Champaign, Ill. : Weed Science Society of America. Field experiments were conducted from 1985 to 1987 to evaluate herbicide systems for minimum-tillage and conventional-tillage peanut production. While acceptable weed control could be achieved in both tillage systems, minimum-tillage systems generally had to be more herbicide intensive. Preemergence or preplant-incorporated within-the-row applications of either ethalfluralin or pendimethalin plus postemergence applications of paraquat and sethoxydim provided Texas panicum control equivalent to preplant-incorporated applications of ethalfluralin or pendimethalin. Early-postemergence paraquat applications improved Florida beggarweed and pitted morningglory control in conventional-tillage systems at least 15% compared to the same systems without paraquat. Control of bristly starbur and sicklepod in conventional-tillage systems did not increase with paraquat application. Broadleaf weed control did not differ between tillage systems, except pitted morningglory control was lower in the minimum-tillage system. Conventional-tillage peanuts produced yields 800 to 1900 kg/ha higher, depending on herbicide system, and also provided greater net returns than minimum-tillage peanuts. The greater yield and net returns in conventional versus minimal-tillage systems were not attributed to weed control or disease problems. Weed science. May 1990. v. 38 (3). p. 243-248. Includes references. (NAL Call No.: DNAL 79.8 W41).

0638

Integrating onion in crop rotation to control Sclerotium rolfsii.
PLDRA. Zeidan, D. Elad, Y.; Hadar, Y.; Chet, I. St. Paul, Minn. : American Phytopathological Society. Plant disease. May 1986. v. 70 (5). p. 426-428. Includes 16 references. (NAL Call No.: DNAL 1.9 P69P).

0639

Irrigation and tillage effects on peanut yield in Virginia.
PNTSB. Wright, F.S. Porter, D.M.; Powell, N.L.; Ross, B.B. Raleigh : American Peanut Research and Education Society. Peanut science. July/Dec 1986. v. 13 (2). p. 89-92. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0640

Mineralization and leaching of phosphorus from soil incubated with surface-applied and incorporated crop residue.
JEVQAA. Sharpley, A.N. Smith, S.J. Madison, Wis. : American Society of Agronomy. With the increasing use of conservation tillage, consideration of crop residue as a potential source of plant-available P and mobility of this P in soil will be important from both agronomic and environmental standpoints. The effect of placement (surface or incorporation) of residue of six crop types (alfalfa, Medicago sativa L.; corn, Zea mays L.; oat, Avena sativa L.; peanut, Arachis hypogaea L.; soybean, Glycine max (L) Merr.; wheat, Triticum aestivum L.) on the mineralization and leaching of P from eight soils was investigated. Significantly greater (1.0% level) amounts of inorganic P were leached from surface-applied compared to incorporated residues during the 84-d incubation at 35 degrees C, with the maximum amount leached after 28 d. The opposite was true for organic P, with greater amounts leached from incorporated residue than from surface-applied residue. These amounts steadily decreased during the 84-d incubation. Apparently, mineralization of residue P and movement within the soil was greater for surface-applied compared to incorporated residue and was a positive linear function of available soil P content ($r2 = 0.69-0.81$). Any increase in soil P solubility caused by residue leachate would be expected to occur to a greater extent with an increase in available soil P. Leaching of mineralized P may be an important source of available P during initial crop growth. Journal of environmental quality. Jan/Mar 1989. v. 18 (1). p. 101-105. Includes references. (NAL Call No.: DNAL QH540.J6).

0641

Peanut cultivar response to tillage systems.
PNTSB. Colvin, D.L. Brecke, B.J. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. Jan/June 1988. v. 15 (1). p. 21-24. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0642

Planting date effect and double-cropping potential of rape in the southeastern United States.
AAREEZ. Thomas, D.L. Breve, M.A.; Raymer, P.L.; DaSilva, J.F.K. New York, N.Y. : Springer. Rape (Brassica napus L.) is an oilseed crop which could potentially fit into a double-cropping system in the southeastern United States. This study was conducted to evaluate the optimum planting dates and double-cropping potential of winter rape in this region. Three rape cultivars were planted in mid-October, late October, and early November in Tifton, GA, USA, during 1984 to 1986. Data collected included stand counts and seed yield. Rape planted earlier showed the best winter survival and seed yield. Westar, a Canadian spring cv.,

showed the highest seed yield averaging 1541 kg/ha (1375 lb/A) over two years. Cascade, an American winter cv., had an average seed yield of 938 kg/ha. Dwarf Essex, a European winter cv., had the best stands, but it did not show any yield potential due to climatic limitations on its vernalization requirements. Based on these results it appears that rape production for this region would be optimized by planting in October using cultivars with a good winterhardiness and a mild vernalization requirement. The harvest dates for Westar and Cascade, ranging from late April to early June, allowed the following crop, peanut (Arachis hypogaea L.), to produce pod yields in the range of 3000 kg/ha. Overall results reflected the feasibility of a rape-peanut double-cropping system, but the economic potential will depend on improved rape cultivars and improvements in all aspects of rape production. Applied agricultural research. Summer 1990. v. 5 (3). p. 205-211. Includes references. (NAL Call No.: DNAL S539.5.A77).

0643

Soybean-peanut rotations for the management of Meloidogyne arenaria.
AANEEF. Rodriguez-Kabana, R. Robertson, D.G.; Backman, P.A.; Ivey, H. Lawrence, Kan. : Society of Nematologists. Annals of applied nematology. Oct 1988. v. 2. p. 81-85. Includes references. (NAL Call No.: DNAL SB998.N4A5).

0644

Tillage variables for peanut production.
PNTSB. Colvin, D.L. Brecke, B.J.; Whitty, E.B. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1988. v. 15 (2). p. 94-97. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0645

Ecology of spiders (Araneae) in a peanut agroecosystem.
EVETEX. Agnew, C.W. Smith, J.W. Jr. Lanham, Md. : Entomological Society of America. Spider populations were studied in three peanut fields in the Texas West Cross-Timbers region during the 1981 and 1982 growing seasons. Hunting species made up 85.8 and 91.7% of the spider fauna during 1981 and 1982, respectively; the remainder were web-builders. Three hunting families, Oxyopidae, Lycosidae, and Thomisidae, were dominant, constituting 74.6% of the total spider fauna for the two study years. Each family in turn was dominated by a single species. Oxyopes salticus Hentz (Dxyopidae) constituted 37.3% of the total spider fauna in 1982 and 16.2% in 1981. The Lycosidae were dominated by Pardosa pauxilla Montgomery and, as a family, were 31.0% of the fauna in 1981 and 26.6% in 1982. The Tomisidae were dominated by the Misumenops spp., mostly M. celer (Hentz). The Misumenops spp. were 14.0% and 14.1% of the spider fauna in 1981 and 1982, respectively. Spider abundance generally increased as the growing season progressed and plant size and structure increased. Lycosids were dependent on a closed plant canopy and were most successful in irrigated fields. Populations of most species, especially lycosids, declined in drought-stressed rain-fed fields, except Misumenops spp., which were most successful under rain-fed conditions. Ballooning activity of spiders was determined from suction trap samples in 1982; results showed D. salticus to be the most numerous aeronaut. The Araneidae and Linyphiidae were next most abundant in suction trap collections, although these and other web-building species constituted only 11.3% of the peanut spider fauna for the two study years. Identification of spider prey revealed a preference for Hemiptera (32.7%), with Lepidoptera and other Araneae constituting 17.3% each. Pest species taken as prey included Heliothis spp., Stegasta bosqueella (Chambers), leafhoppers, and thrips (Frankliniella spp.). Entomophagous species constituted about one -half the spider diet. Environmental entomology. Feb 1989. v. 18. p. 30-42. Includes references. (NAL Call No.: DNAL QL461.E532).

0646

Larval description of Rivellia pallida (Diptera: Platystomatidae), a consumer of the nitrogen-fixing root nodules of hog-peanut, Amphicarpa bracteata (Leguminosae).
PESWA. Bibro, C.M. Foote, B.A. Washington, D.C. : The Society. Proceedings of the Entomological Society of Washington. July 1986. v. 88 (3). p. 578-584. ill. Includes references. (NAL Call No.: DNAL 420 W27).

0647

Transmission of peanut mottle and peanut stripe viruses by Aphis craccivora and Myzus persicae.
PLDIDE. Screenivasulu, P. Demski, J.W. St. Paul, Minn. : American Phytopathological Society. Plant disease. Aug 1988. v. 72 (8). p. 722-723. Includes references. (NAL Call No.: DNAL 1.9 P69P).

0648

Floral visits by honey bees to three caged peanut genotypes and the resulting increase in hybrid seed.
ABJOA. Moffett, J.O. Banks, D.J.; Pittman, R.M. Hamilton, Ill. : Dadant & Sons. American bee journal. Includes abstract. Dec 1986. v. 126 (12). p. 833. (NAL Call No.: DNAL 424.8 AM3).

0649

Ecology of spiders (Araneae) in a peanut agroecosystem.
EVETEX. Agnew, C.W. Smith, J.W. Jr. Lanham, Md. : Entomological Society of America. Spider populations were studied in three peanut fields in the Texas West Cross-Timbers region during the 1981 and 1982 growing seasons. Hunting species made up 85.8 and 91.7% of the spider fauna during 1981 and 1982, respectively; the remainder were web-builders. Three hunting families, Oxyopidae, Lycosidae, and Thomisidae, were dominant, constituting 74.6% of the total spider fauna for the two study years. Each family in turn was dominated by a single species. Oxyopes salticus Hentz (Oxyopidae) constituted 37.3% of the total spider fauna in 1982 and 16.2% in 1981. The Lycosidae were dominated by Pardosa pauxilla Montgomery and, as a family, were 31.0% of the fauna in 1981 and 26.6% in 1982. The Tomisidae were dominated by the Misumenops spp., mostly M. celer (Hentz). The Misumenops spp. were 14.0% and 14.1% of the spider fauna in 1981 and 1982, respectively. Spider abundance generally increased as the growing season progressed and plant size and structure increased. Lycosids were dependent on a closed plant canopy and were most successful in irrigated fields. Populations of most species, especially lycosids, declined in drought-stressed rain-fed fields, except Misumenops spp., which were most successful under rain-fed conditions. Ballooning activity of spiders was determined from suction trap samples in 1982; results showed O. salticus to be the most numerous aeronaut. The Araneidae and Linyphiidae were next most abundant in suction trap collections, although these and other web-building species constituted only 11.3% of the peanut spider fauna for the two study years. Identification of spider prey revealed a preference for Hemiptera (32.7%), with Lepidoptera and other Araneae constituting 17.3% each. Pest species taken as prey included Heliothis spp., Stegasta bosqueella (Chambers), leafhoppers, and thrips (Frankliniella spp.). Entomophagous species constituted about one -half the spider diet. Environmental entomology. Feb 1989. v. 18. p. 30-42. Includes references. (NAL Call No.: DNAL QL461.E532).

0650

Growth analysis of 'Florigraze' rhizoma peanut: forage nutritive value.
AGJDAT. Saldivar, A.J. Ocumpaugh, W.R.; Gildersleeve, R.R.; Moore, J.E. Madison, Wis. : American Society of Agronomy. 'Florigraze' rhizoma peanut (Arachis glabrata Benth.) is a perennial tropical forage legume grown in Florida and the southern Gulf Coast. Two field studies were conducted near Gainesville, FL on Arredondo loamy sands (loamy, siliceous, hyperthermic, Grossaremic Paleudults) in 1980 and 1981. The objective of these studies was to evaluate nutritive value of Florigraze topgrowth as measured by crude protein (CP) and in vitro digestible organic matter (IVDDM). Experiment 1 was an establishment-year growth analysis study conducted at two sites (years). Experiment 2 was a defoliation-frequency study (0 vs. 2, 6, and 8 wk) conducted in 1981 on plants that were undisturbed at the 1980 site. Samples were taken periodically during the growing season in both years. In Exp. 1, both CP and IVDDM concentrations were characterized by two-stage curves, where CP and IVDOM declined linearly (-0.9 and -0.7 g kg-1 d-1) until September, then stabilized at 125 and 610 g kg-1, respectively. Leaves constituted 60 to 80% of top growth in both years. In Exp. 2, CP and IVDDM declined linearly (-0.3 and -1.0 g kg-1 d-1) during the growing season for all defoliation treatments. Decline in percent leaf in the established plants of Exp. 2 was twice that of undisturbed plants in Exp. 1: -0.10 vs. -0.05 percentage units d-1. There was a sampling date X defoliation treatment interaction ($P < 0.001$) in percent leaf. Values for undefoliated plants were similar to that of Exp. 1, but leaf percentages declined at increasing rates in all defoliation treatments. At four dates in Exp. 1 and three dates in Exp. 2, top growth was separated into leaves and stems for IVDDM analysis. Leaf IVDDM declined linearly (-0.3 g kg-1 d-1), while stem IVDDM declined and then increased slightly from September through December. The data suggested that leafiness can be altered by defoliation management, and in turn, leafiness influences forage nutritive value of Florigraze rhizoma peanut. Agronomy journal. May/June 1990. v. 82 (3). p. 473-477. Includes references. (NAL Call No.: DNAL 4 AM34P).

0651

Production and nutritive value of florigraze rhizoma peanut in a semiarid climate.
AGJDAT. Ocumpaugh, W.R. Madison, Wis. : American Society of Agronomy. 'Florigraze' rhizoma peanut (Arachis glabrata Benth.) is a warm-season perennial forage legume that has received considerable research emphasis in Florida. However, little is known about its value outside of Florida. A field experiment was conducted on an established stand of Florigraze at Beeville, TX on a Parrita sandy clay loam (Clayey, mixed, hyperthermic, shallow Petrocalcia Paleustolls). Dry matter (DM) production, crude protein (CP) and in vitro digestible dry matter (IVDDM) of leaf blades and stem components were determined by sampling biweekly from June through January for each of two years. Treatments were total-seasonal accumulated growth compared to regrowth of peanut defoliated in mid-July or late-August. A randomized complete block (RCB) design with three replicates was used, and 900-cm2 areas were hand clipped to ground level for yield determinations. Typical for semiarid climate, rainfall was erratic and its distribution varied between years. Total-seasonal DM accumulation of 8 to 10 Mg ha-1 was recorded each season. Rainfall influenced DM production patterns, percent leaf, stem IVDDM, and leaf and stem crude protein (CP). Rainfall and defoliation treatment had no effect on leaf IVDDM. Leaf IVDDM declined slowly during each year (-0.4 to -0.9 g kg-1 d-1) but exceeded 700 g kg-1 during the entire growing season. Florigraze loses leaves in response to drought stress. Autumn leaf production was unaffected by defoliation treatments. Leaf blade CP concentration was 1.7 to 1.9 times greater than that of stems. Because of leaf loss during late summer, spring and early summer production should be harvested in June or July. Forage production and nutritive value were sufficiently high, even under limited rainfall conditions, to warrant further investigation. Agronomy journal. Mar/Apr 1990. v. 82 (2). p. 179-182. Includes references. (NAL Call No.: DNAL 4 AM34P).

ANIMAL TAXONOMY AND GEOGRAPHY

0652

Larval description of Rivellia pallida (Diptera: Platystomatidae), a consumer of the nitrogen-fixing root nodules of hog-peanut, Amphicarpa bracteata (Leguminosae).
PESWA. Bibro, C.M. Foote, B.A. Washington, D.C. : The Society. Proceedings of the Entomological Society of Washington. July 1986. v. 88 (3). p. 578-584. ill. Includes references. (NAL Call No.: DNAL 420 W27).

0653

Potential for semi-underground storage of farmers stock peanuts.
PNTSB. Smith, J.S. Jr. Sanders, T.H. Raleigh : American Peanut Research and Education Society. Peanut science. Jan/June 1987. v. 14 (1). p. 34-38. ill. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0654

Impact blasters for peanut pod maturity determination.
TAAEA. Williams, E.J. Monroe, G.E. St. Joseph, Mich. : The Society. Transactions of the ASAE - American Society of Agricultural Engineers. Jan/Feb 1986. v. 29 (1). p. 263-266, 275. ill. Includes references. (NAL Call No.: DNAL 290.9 AM32T).

0655

Biomass programs of the Southern Agricultural Energy Center.
Butler, J.L. Haynie, J.H. New York : Plenum Press, c1986. Biomass energy development / edited by Wayne H. Smith. Paper presented at the "Third Southern Biomass Energy Research Conference," March 12-14, 1985, Gainsville, Florida. p. 157-162. (NAL Call No.: DNAL TP360.S68 1985).

DRAINAGE AND IRRIGATION

0656

Effect of irrigation and parathion granule applications on various peanut insect pests.
Tappan, W.B. Gorbet, D.W. Clemson, S.C. : South Carolina Entomological Society. Journal of agricultural entomology. Jan 1986. v. 3 (1). p. 68-76. Includes references. (NAL Call No.: DNAL SB599.J69).

0657

Effect of water deficit at different growth phases of peanut. II. Response to drought during preflowering phase.
AGJOAT. Rao, R.C.N. Williams, J.H.; Sivakumar, M.V.K.; Wadia, K.D.R. Madison, Wis. : American Society of Agronomy. Agronomy journal. May/June 1988. v. 80 (3). p. 431-438. Includes references. (NAL Call No.: DNAL 4 AM34P).

0658

Effects of sprinkler irrigation on peanut diseases in Virginia.
PLDRA. Porter, D.M. Wright, F.S.; Powell, N.L. St. Paul, Minn. : American Phytopathological Society. Plant disease. June 1987. v. 71 (6). p. 512-515. Includes references. (NAL Call No.: DNAL 1.9 P69P).

0659

Influence of irrigation, row spacing, and seeding rate on yield and market quality of peanuts (Arachis hypogaea L.).
AAREEZ. Mixon, A.C. New York : Springer. Applied agricultural research. 1987. v. 1 (5). p. 289-293. Includes references. (NAL Call No.: DNAL S539.5.A77).

0660

Irrigation and tillage effects on peanut yield in Virginia.
PNTSB. Wright, F.S. Porter, D.M.; Powell, N.L.; Ross, B.B. Raleigh : American Peanut Research and Education Society. Peanut science. July/Dec 1986. v. 13 (2). p. 89-92. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0661

Irrigation method and water quality effect on peanut yield and grade.
AGJOAT. Adamsen, F.J. Madison, Wis. : American Society of Agronomy. Peanut (Arachis hypogaea L.), irrigated only recently in the coastal plain region of Virginia and North Carolina, is produced in an area where sodic deep water sources are more readily available than high quality shallow water sources. The objective of this work was to determine the effect of irrigation water qualtiy and irrigation method on the yield and grade of peanut. Virginia-type peanuts (cv. VA 81B) were grown on a Kenansville loamy sand (loamy, siliceous, thermic Arenic Hapludult) in Suffolk, VA from 1984 to 1987. Peanuts were irrigated with either overhead sprinklers or deep buried trickle lines using deep-well (142 m) and shallow-well (10 m) water. Trickle lines were buried 350 to 410 mm below each row. Deep-well water had 220 mg Na L-1, a pH of 8.5, and a sodium adsorption ratio (SAR) of 103. Shallow-well water had 4.8 mg Na L-1, a pH of 4.8, and an SAR of 3.1. Shallow-well, trickle-irrigated peanuts yielded 5003 kg ha-1 or 14% higher than the nonirrigated treatment. Deep-well, sprinkler-irrigated peanuts averaged 4374 kg ha-1 for 4 yr, which was 21 kg ha-1 lower than the nonirrigated treatment. The price of deep-well, sprinkler-irrigated peanuts was also lower than all other treatments due to lower percentages of extra-large kernels, total sound mature kernels, and fancy pods. Deep-well water applied below 300 mm through trickle irrigation produced peanuts of comparable quality and quantity as the shallow-well, trickle, or sprinkler-irrigation treatments. Irrigation of peanuts was beneficial in this humid region. There was no difference in peanut yield or grade when sprinkler or trickle irrigation was used with good quality irrigation water, but trickle irrigation required only 44% as much water. With a sodic water source, trickle irrigation was superior to sprinkler application. Agronomy journal. July/Aug 1989. v. 81 (4). p. 589-593. Includes references. (NAL Call No.: DNAL 4 AM34P).

0662

Irrigation of peanuts.
Sneed, R.E. Raleigh, N.C. : The Service. AG - North Carolina Agricultural Extension Service, North Carolina State University. In series analytic: 1990 Peanuts. Jan 1990 (331,rev.). p. 80-85. (NAL Call No.: DNAL S544.3.N6N62).

0663

Peanut and corn yield response to water table level.
Wright, F.S. Adamsen, F.J. St. Joseph, Mich. : The Society. American Society of Agricultural Engineers (Microfiche collection). Paper presented at the 1987 Winter Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1987. (fiche no. 87-2550). 19 p. ill. Includes references. (NAL Call No.: DNAL FICHE S-72).

0664

Peanut profits and irrigation yield response in the northern Texas High Plains, a non-traditional production area.
TAEBA. Harman, W.L. Regier, C.; Petr, F.; Lansford, V.D. College Station, Tex. : The Station. B - Texas Agricultural Experiment Station. Oct 1990. (1659). 13 p. Includes references. (NAL Call No.: DNAL 100 T31S (1)).

0665

Peanut responses to imposed-drought conditions in southern Ontario.
PNTSB. Roy, R.C. Stonehouse, D.P.; Francois, B.; Brown, D.M. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. July/Dec 1988. v. 15 (2). p. 85-89. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0666

Peanut yield response to alternative timings and levels of irrigation, northern Texas Panhandle.
Harman, W.L. Petr, F.; Wiese, A.F.; Regier, C. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. May 1986. (4365). 7 p. (NAL Call No.: DNAL 100 T31P).

0667

Simulation of peanut growth in Oklahoma.
Grosz, G.D. Elliott, R.L.; Young, J.H. St. Joseph, Mich. : The Society. American Society of Agricultural Engineers (Microfiche collection). Paper presented at the 1986 Winter Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1986. (fiche no. 86-2598). 21 p. Includes references. (NAL Call No.: DNAL FICHE S-72).

0668

Water use & relationships in peanut production.
Baldwin, J.A. Harrison, K. Athens, Ga. : The Service. Special bulletin - University of Georgia, Cooperative Extension Service. June 1989. (SB23-a). 4 p. (NAL Call No.: DNAL SB950.A1S62).

0669

Probit analysis of market participants' attitudes toward selected market alternatives for US farmers' stock peanuts.
Kwakyi, P.K. Epperson, J.E.; Fletcher, S.M.; Carley, D.H. New York, N.Y. : John Wiley. Agribusiness. Mar 1989. v. 5 (2). p. 107-119. Includes references. (NAL Call No.: DNAL HD1401.A56).

0670

Effects of agricultural practices, handling, processing, and storage on legumes and oilseeds.

Wolf, W.J. New York : Van Nostrand Reinhold, c1988. Abstract: A detailed technical report considers agricultural effects and the effects of handling, processing, and storage conditions on the nutritional value and composition of legumes and oilseeds. Specific attention is given to: (1) the structure, nutritional content, effect of processing methods, and food uses of edible legumes; and (2) the structure, composition, nutritional components, and nutritional density of oilseeds, including cottonseed, peanuts, soybeans, sunflower seeds, and their numerous products (e.g., soya protein isolate, tofu, etc.). Food uses of cottonseed, peanuts, and soybeans also are discussed. Nutritional evaluation of food processing / edited by Endel Karmas, Robert S. Harris. Literature review. p. 119-152. ill., charts. Includes 108 references. (NAL Call No.: DNAL TX551.H3 1988).

0671

Effects of different moisture levels and drying temperature on freeze damaged peanuts.
Singleton, J.A. Pattee, H.E. Washington, D.C. : The Society. Abstracts of papers - American Chemical Society. Abstract only.~ Includes abstract. 1986? . (192nd). p. 23. (NAL Call No.: DNAL 381 AM33PA).

0672

Harvesting and curing peanuts.
Glover, J.W. Raleigh, N.C. : The Service. AG - North Carolina Agricultural Extension Service, North Carolina State University. In series analytic: 1989 Peanuts / prepared by Sullivan, G.A., Linker, H.M. ... et al. . Jan 1989. (331,rev.). p. 84-92. (NAL Call No.: DNAL S544.3.N6N62).

0673

Mechanical peanut curing.
Glover, J.W. Raleigh, N.C. : The Service. AG - North Carolina Agricultural Extension Service, North Carolina State University. Aug 1988. (406,rev.). 7 p. ill. (NAL Call No.: DNAL S544.3.N6N62).

FOOD STORAGE

0674

Effects of agricultural practices, handling, processing, and storage on legumes and oilseeds.
Wolf, W.J. New York : Van Nostrand Reinhold, c1988. Abstract: A detailed technical report considers agricultural effects and the effects of handling, processing, and storage conditions on the nutritional value and composition of legumes and oilseeds. Specific attention is given to: (1) the structure, nutritional content, effect of processing methods, and food uses of edible legumes; and (2) the structure, composition, nutritional components, and nutritional density of oilseeds, including cottonseed, peanuts, soybeans, sunflower seeds, and their numerous products (e.g., soya protein isolate, tofu, etc.). Food uses of cottonseed, peanuts, and soybeans also are discussed. Nutritional evaluation of food processing / edited by Endel Karmas, Robert S. Harris. Literature review. p. 119-152. ill., charts. Includes 108 references. (NAL Call No.: DNAL TX551.H3 1988).

0675

Effect of chilling injury on windrowed peanuts.
PNTSB. Singleton, J.A. Pattee, H.E. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. Jan/June 1989. v. 16 (1). p. 51-54. Includes references. (NAL Call No.: DNAL SB351.P3P39).

0676

Effects of genotype and date of harvest on infection of peanut seed by Aspergillus flavus and subsequent contamination with aflatoxin.
PNTSB. Mehan, V.K. McDonald, D.; Ramakrishna, N.; Williams, J.H. Raleigh : American Peanut Research and Education Society. Peanut science. July/Dec 1986. v. 13 (2). p. 46-50. Includes references. (NAL Call No.: DNAL SB351.P3P39).

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Effects of varied substrates on aflatoxin production by Aspergillus parasiticus.
JJASDH. Farag, R.S. El-Leithy, M.A.; Basyony, A.E.; Daw, Z.Y. Champaign, Ill. : The Society. Journal of the American Oil Chemists' Society. Aug 1986. v. 63 (8). p. 1024-1026. Includes 19 references. (NAL Call No.: DNAL 307.8 J82).

0678

Growth and survival of Flavobacterium aurantiacum in peanut milk.
Hao, D.Y.Y. Brackett, R.E. Boston, Mass. : Little, Brown and Company. Abstract: Tryptone-yeast extract-glucose (TYG) and trypticase soy broth (TSB) were evaluated for production and recovery of Flavobacterium aurantiacum stationary phase cells. In addition, growth of F. aurantiacum in peanut milk was tested. Trypticase soy broth was chosen as the best medium for producing stationary phase cells. Both non-defatted peanut milk (NDPM) and partially defatted peanut milk (PDPM) supported growth of F. aurantiacum. The growth of F. aurantiacum in both kinds of peanut milk was not inhibited by aflatoxin B1 (1 mg/ml). About 10(9) stationary phase cells were inoculated in 0.067 M phosphate buffer (PB) at pH 5.0, 5.5, 6.0, 6.5, and 7.0, and in both peanut milks (pH 6.3 and 6.9). After a 24-h incubation period, the viable cell number decreased slightly in PB (pH 7.0, 30 degrees C), but decreased 2-3 logs in other buffers. About 0.6-0.8 log decrease was observed in NDPM and PDPM. Phosphate buffer (0.067 M, pH 7.0), NDPM and PDPM were determined to be adequate for use in studies to investigate the removal of aflatoxin B1 by F. aurantiacum. The Lancet. Mar 4, 1989. v. 1 (8636). p. 165-168. Includes 15 references. (NAL Call No.: DNAL 448.8 L22).

0679

Increased susceptibility and reduced phytoalexin accumulation in drought-stressed peanut kernels challenged with Aspergillus flavus.
APMBA. Wotton, H.R. Strange, R.N. Washington, D.C. : American Society for Microbiology. Applied and environmental microbiology. Feb 1987. v. 53 (2). p. 270-273. Includes references. (NAL Call No.: DNAL 448.3 AP5).

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Inhibitory effect of beta-ionone on growth and aflatoxin production by Aspergillus parasiticus on peanuts.
JFPRDR. Wei, C.I. Tan, H.; Fernando, S.Y.; Ko, N.J. Ames, Iowa : International Association of Milk, Food, and Environmental Sanitarians. Journal of food protection. July 1986. v. 49 (7). p. 515-518. ill. Includes references. (NAL Call No.: DNAL 44.8 J824).

0681

Mycotoxin management in peanut by prevention of contamination and monitoring.
Pettit, R.E. Experiment, Ga. : University of Georgia, Georgia Experiment Station. Annual report of the Peanut Collaborative Research Support Program (CRSP). Literature review. 1986. p. 88-134. maps. Includes references. (NAL Call No.: DNAL SB351.P3P432).

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Some effects of mineral nutrition on aflatoxin contamination of corn and peanuts.
Wilson, D.M. Walker, M.E.; Gascho, G.J. St. Paul, Minn. : APS Press, c1989. Soilborne plant pathogens : management of diseases with macro- and microelements / edited by Arthur W. Engelhard. p. 137-151. Includes references. (NAL Call No.: DNAL SB732.87.S66).

0683

Systems design for production and recovery of secondary fungal metabolites.
Mateu, S. Garcia, A. III; Stack, J. St. Joseph, Mich. : The Society. American Society of Agricultural Engineers (Microfiche collection). Paper presented at the 1988 Winter Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1988. (fiche no. 88-6607). 10 p. Includes references. (NAL Call No.: DNAL FICHE S-72).

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Varietal resistance in peanut to aflatoxin production.
PNTSB. Mehan, V.K. McDonald, D.; Ramakrishna, N. Raleigh : American Peanut Research and Education Society. Peanut science. Jan/June 1986. v. 13 (1). p. 7-10. Includes references. (NAL Call No.: DNAL SB351.P3P39).

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TX/MM/S--mycotoxin management in peanut by prevention of contamination and monitoring.
Pettit, R.E. Griffin, Ga. : University of Georgia, Georgia Experiment Station. Annual report of thee Peanut Collaborative Research Support Program (CRSP). 1986? . p. 58-76. (NAL Call No.: DNAL SB351.P3P432).

FOOD COMPOSITION

0686

Effects of agricultural practices, handling, processing, and storage on legumes and oilseeds.

Wolf, W.J. New York : Van Nostrand Reinhold, c1988. Abstract: A detailed technical report considers agricultural effects and the effects of handling, processing, and storage conditions on the nutritional value and composition of legumes and oilseeds. Specific attention is given to: (1) the structure, nutritional content, effect of processing methods, and food uses of edible legumes; and (2) the structure, composition, nutritional components, and nutritional density of oilseeds, including cottonseed, peanuts, soybeans, sunflower seeds, and their numerous products (e.g., soya protein isolate, tofu, etc.). Food uses of cottonseed, peanuts, and soybeans also are discussed. Nutritional evaluation of food processing / edited by Endel Karmas, Robert S. Harris. Literature review. p. 119-152. ill., charts. Includes 108 references. (NAL Call No.: DNAL TX551.H3 1988).

0687

The effect of peanut stripe virus infection on peanut composition.
PNTSB. Ross, L.F. Lynch, R.E.; Conkerton, E.J.; Demski, J.W.; Daigle, D.J.; McCombs, C. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. Jan/June 1989. v. 16 (1). p. 43-45. Includes references. (NAL Call No.: DNAL SB351.P3P39).

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The effect of three digging dates on oil quality, yield, and grade of five peanut genotypes grown without leafspot control.
PNTSB. Knauft, D.A. Norden, A.J.; Gorbet, D.W. Raleigh : American Peanut Research and Education Society. Peanut science. July/Dec 1986. v. 13 (2). p. 82-86. Includes references. (NAL Call No.: DNAL SB351.P3P39).

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Effects of different moisture levels and drying temperature on freeze damaged peanuts.
Singleton, J.A. Pattee, H.E. Washington, D.C. : The Society. Abstracts of papers - American Chemical Society. Abstract only.~ Includes abstract. 1986? . (192nd). p. 23. (NAL Call No.: DNAL 381 AM33PA).

HOME FOOD AND MEAL PREPARATION

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Peanuts in the home garden.
Sholar, R. Kirby, J.; Jackson, K.; Pinkston, K.; McCraw, D. Stillwater, Okla. : The Service. OSU extension facts - Cooperative Extension Service, Oklahoma State University. Jan 1988. (6018,rev.). 3 p. ill. (NAL Call No.: DNAL S544.3.0505).

POLLUTION

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Crop yeild response predicted with different characterizations of the same ozone treatments.
JEVQAA. Cure, W.W. Sanders, J.S.; Heagle, A.S. Madison, Wis. : American Society of Agronomy. Journal of environmental quality. July/Sept 1986. v. 15 (3). p. 251-254. Includes 7 references. (NAL Call No.: DNAL QH540.J6).

0692

Acreage decisions under marketing quotas and yield uncertainty.
Babcock, B.A. Ames, Iowa : American Agricultural Economics Association. A conceptual model examines how quotas and yield uncertainty affect acreage decisions. Production in excess of a quota can occur if the price for quota production is large relative to marginal costs. Increasing risk aversion increases expected production further if the risk of forfeiting quota revenue is given greater weight than avoiding production risk. Allowing quota carryover decreases production levels. Simulations indicate the most important factors determining expected production levels are (a) the existence of a carryover provision, (b) the price differential given to quota production relative to nonquota production, and (c) the level of marginal costs relative to the quota price. American journal of agricultural economics. Nov 1990. v. 72 (4). p. 958-965. Includes references. (NAL Call No.: DNAL 280.8 J822).

0693

A comparison of two peanut growth models for Oklahoma.
PNTSB. Grosz, G.D. Elliott, R.L.; Young, J.H. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. Jan/June 1988. v. 15 (1). p. 30-35. Includes references. (NAL Call No.: DNAL SB351.P3P39).

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Diffusion of moisture as a function of fourier and biot numbers.
TAAEA. Walton, L.R. Payne, F.A.; Ross, I.J. St. Joseph, Mich. : American Society of Agricultural Engineers. Transactions of the ASAE. Mar/Apr 1988. v. 31 (2). p. 603-607. Includes references. (NAL Call No.: DNAL 290.9 AM32T).

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Establishing peanut purchasing contract terms with uncertain market prices and input supplies.
Dubman, R.W. Beltsville, Md. : Food Distribution Research Society. Journal of food distribution research. Paper presented at the 28th Annual Meeting on "People Adding Value to Food Distribution," Oct. 13, 1987, Williamsburg, Virginia. Feb 1988. v. 19 (1). p. 37-49. Includes references. (NAL Call No.: DNAL HD9000.A1J68).

0696

Modeling symbiotic performance of introduced rhizobia in the field by use of indices of indigenous population size and nitrogen status of the soil.
APMBA. Thies, J.E. Singleton, P.W.; Bohlool, B.B. Washington, D.C. : American Society for Microbiology. Lactococcus lactis subsp. cremoris P8-2-47 contains an X-prolyl dipeptidyl aminopeptidase (X-PDAP; EC 3.4.14.5). A mixed-oligonucleotide probe prepared on the basis of the N-terminal amino acid sequence of the purified protein was made and used to screen a partial chromosomal DNA bank in Escherichia coli. A partial XbaI fragment cloned in pUC18 specified X-PDAP activity in E. coli clones. The fragment was also able to confer X-PDAP activity on Bacillus subtilis. The fact that none of these organisms contain this enzymatic activity indicated that the structural gene for X-PDAP had been cloned. The cloned fragment fully restored X-PDAP activity in X-PDAP-deficient mutants of L. lactis. We have sequenced a 3.8-kb fragment that includes the X-PDAP gene and its expression signals. The X-PDAP gene, designated pepXP, comprises 2,289 nucleotide residues encoding a protein of 763 amino acids with a predicted molecular weight of 87,787. No homology was detected between pepXP and genes that had been previously sequenced. A second open reading frame, divergently transcribed, was present in the sequenced fragment; the function or relationship to pepXP of this open reading frame is unknown. Applied and environmental microbiology. Jan 1991. v. 57 (1). p. 29-37. Includes references. (NAL Call No.: DNAL 448.3 AP5).

0697

Pest of stored peanuts: toxicity and persistence of chlorpyrifos-methyl.
JEENAI. Arthur, F. Lanham, Md. : Entomological Society of America. Virginia type peanuts were treated with 5, 10, 20, and 30 ppm chlorpyrifos-methyl and infested with fifth-instar almond moth, Cadra cautella (Walker), and Indianmeal moth, Plodia interpunctella (Hubner) at T1, T60, T120, and T180 (days after application). Rates of 5 and 10 ppm did not kill almond moth larvae at T1, and rates of 20 and 30 ppm were only marginally effective. Indianmeal moth larvae were more susceptible to chlorpyrifosmethyl than were almond moth larvae, but only the 20 and 30 ppm rates gave control at T1. Adult red flour beetles, Tribolium castaneum (Herbst), and merchant grain beetles, Oryzaephilus mercator (Fauvel), were also tested at T1, T60, T120, T180, and T270. Rates of 20 and 30 ppm were effective against both beetle species for at least 180 d after application. Journal of economic entomology. Apr 1989. v. 82 (2). p. 660-664. Includes references. (NAL Call No.: DNAL 421 J822).

0698

Simulation of peanut growth in Oklahoma.
Grosz, G.D. Elliott, R.L.; Young, J.H. St. Joseph, Mich. : The Society. American Society of Agricultural Engineers (Microfiche collection). Paper presented at the 1986 Winter Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1986. (fiche no. 86-2598). 21 p. Includes references. (NAL Call No.: DNAL FICHE S-72).

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Simulation of peanut root growth.
Singh, P. Young, J.H. St. Joseph, Mich. : The Society. American Society of Agricultural Engineers (Microfiche collection). Paper presented at the 1988 Summer Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1988. (fiche no. 88-2101). 27 p. ill. Includes references. (NAL Call No.: DNAL FICHE S-72).

0700

Symbiotic relationship between Bradyrhizobium strains and peanut.
CRPSAY. Alwi, N. Wynne, J.C.; Rawlings, J.O.; Schneeweis, T.J.; Elkan, G.H. Madison, Wis. : Crop Science Society of America. Significant host X strain interactions for the amount of N fixed were found in previous factorial experiments of peanut (Arachis hypogaea L.) and Bradyrhizobium strains. The results suggested that specific host-strain combinations should be identified to maximize N fixation. The objectives of this study were to determine if methodology could be developed to reduce the testing required to identify specific host-strain combinations that maximize N fixation. Sixteen peanut cultivars representing four morphological groups inoculated with 29 Bradyrhizobium strains known to be effective on peanut were used to determine if grouping of host genotypes or strain genotypes could be used to limit testing to groups of genotypes instead of individual genotypes. The peanut cultivars grouped using numerical taxonomy of morphological characters reflected the differences in response to rhizobial strains; however, cultivars were not homogeneous within groups for symbiotic traits. Strain variability was the largest component of the phenotypic variability for all traits, and the host plant had larger variability than the cultivar X strain interaction for nodule number, nodule weight, and nodule size. The biplot of shoot weight ratio classified the strains and peanut cultivars into five and four groups, respectively. All cultivars received enough N to appear normal when they were inoculated with effective strains but were quite different in response to symbiotic N. These results suggest that the amount of plant testing required to identify specific strains for a host genotype can be reduced considerably by first classifying the symbionts into groups and eliminating some groups from further testing. Crop science. Jan/Feb 1989. v. 29 (1). p. 50-54. Includes references. (NAL Call No.: DNAL 64.8 C883).

0701

Theoretical basis of protocols for seed storage.
PLPHA. Vertucci, C.W. Roos, E.E. Rockville, Md. : American Society of Plant Physiologists. The protocols presently established for optimum seed storage do not account for the chemical composition of different seed species, the physiological status of the seed, and the physical status of water within the seed. The physiological status of seeds from five species with varying chemical compositions was determined by measurements of rates of oxygen uptake and seed deterioration. The physical status of water was determined by water sorption characteristics. For each species studied, there was a specific moisture content for the onset of respiration, chemical reactions, and accelerated aging rates. The moisture contents at which these physiological levels were observed varied among the species and correlated with the lipid content of the seed. However, the changes in physiological activities and the physical status of water occurred at specific relative humidities: 91% for the onset of respiration, 27% for the increased rates of thermal-chemical reactions, and 19% for optimum longevity. Based on these observations, we propose that equilibrating seeds between 19 and 27% relative humidity provides the optimum moisture level for maintaining seed longevity during long-term storage. Plant physiology. Nov 1990. v. 94 (3). p. 1019-1023. Includes references. (NAL Call No.: DNAL 450 P692).

0702

Use of a simulation model to explore fungicide strategies for control of Cercospora leafspot of peanut.
PNTSB. Knudsen, G.R. Johnson, C.S.; Spurr, H.W. Jr. Raleigh, N.C. : American Peanut Research and Education Society. Peanut science. Jan/June 1988. v. 15 (1). p. 39-43. Includes references. (NAL Call No.: DNAL SB351.P3P39).

DOCUMENTATION

0703

AUNUTS--AAES developed expert system helps manage peanut pests.
HARAA. Davis, D.P. Mack, T.P.; Rodriguez-Kabana, R.; Backman, P.A. Auburn University, Ala. : The Station. Highlights of agricultural research - Alabama Agricultural Experiment Station. Winter 1989. v. 36 (4). p. 11. (NAL Call No.: DNAL 100 AL1H).

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